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The OIL WEEKLY

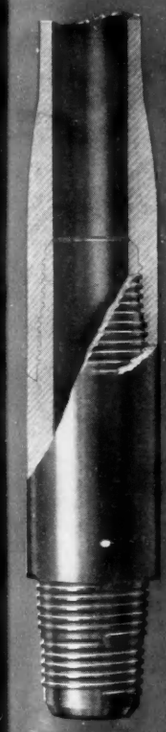
OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

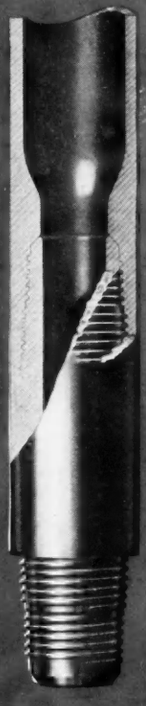
HYDRIL

Drill Pipe Joints



Hydril Internal Flush Drill Pipe Joint

Gives the maximum fluid passage obtainable because the size of the hole through the tool joint is the same as the full inside diameter of the drill pipe.



Hydril External Flush Drill Pipe Joint

Essential for Safety, Speed and Economy in all controlled-pressure drilling operations. Offers many advantages in ordinary drilling work as well.

This Testing Machine Proves **EVERY DRILL PIPE** *and* **TOOL JOINT THREAD** *before delivery to you*

You *can't* be too particular about drill pipe joints. Too much depends on their being right in every way. We are particular, too; we *prove* every drill pipe joint we make—not once, but many times—before the tool joint is finally correctly made up in the pipe and delivered to you. This is the way it's done:

As shown in the picture, a finished joint of pipe is passed through the hollow spindle and secured in the jaws of a special torque-measuring machine developed by Hydril engineers. The machine is set in motion and the tool joint, treated with a standard thread lubricant, is screwed into the pipe. Gauges on the machine and on the tongs tell the operators when the torque exerted by the machine is greater than the joint will ever be subjected to in drilling. The joint is then unscrewed and both the pipe and tool joint threads are carefully inspected. The process of setting up and breaking out the joint is repeated several times before the tool joint and pipe are tested together, and so on until every joint in your new string of drill pipe has thoroughly proved itself. (The design of this non-creeping, non-leaking joint eliminates the necessity for welding the tool joint in the pipe.)

In the same way the other end of the tool joint and the next length of pipe are tested together, and so on until every joint in your new string of drill pipe has thoroughly proved itself.

Is it any wonder that operators throughout the world who demand the utmost in dependability, endurance and smooth performance specify Hydril Drill Pipe Joints?

NOTE: *All manufacturers of seamless drill pipe make pipe for both Hydril Internal Flush and External Flush Drill Pipe Joints. Threads are cut in the drill pipe and tool joints manufactured at the Hydril factories in Torrance, California and Houston, Texas.*

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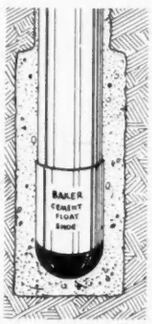
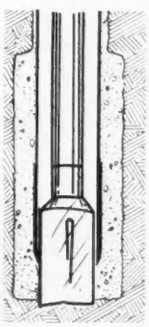
Scraper enlarging 20 to 50 feet of hole just above bottom. This insures ample clearance around shoe and casing and permits complete distribution of cement. Then carry through to best cementing results with a Baker Cement Float Shoe a Baker Cement Whirler Shoe a Cement Float Collar and a Cement Guide



Shoe or the right combination of these units for your particular depth, well condition and program of operations.

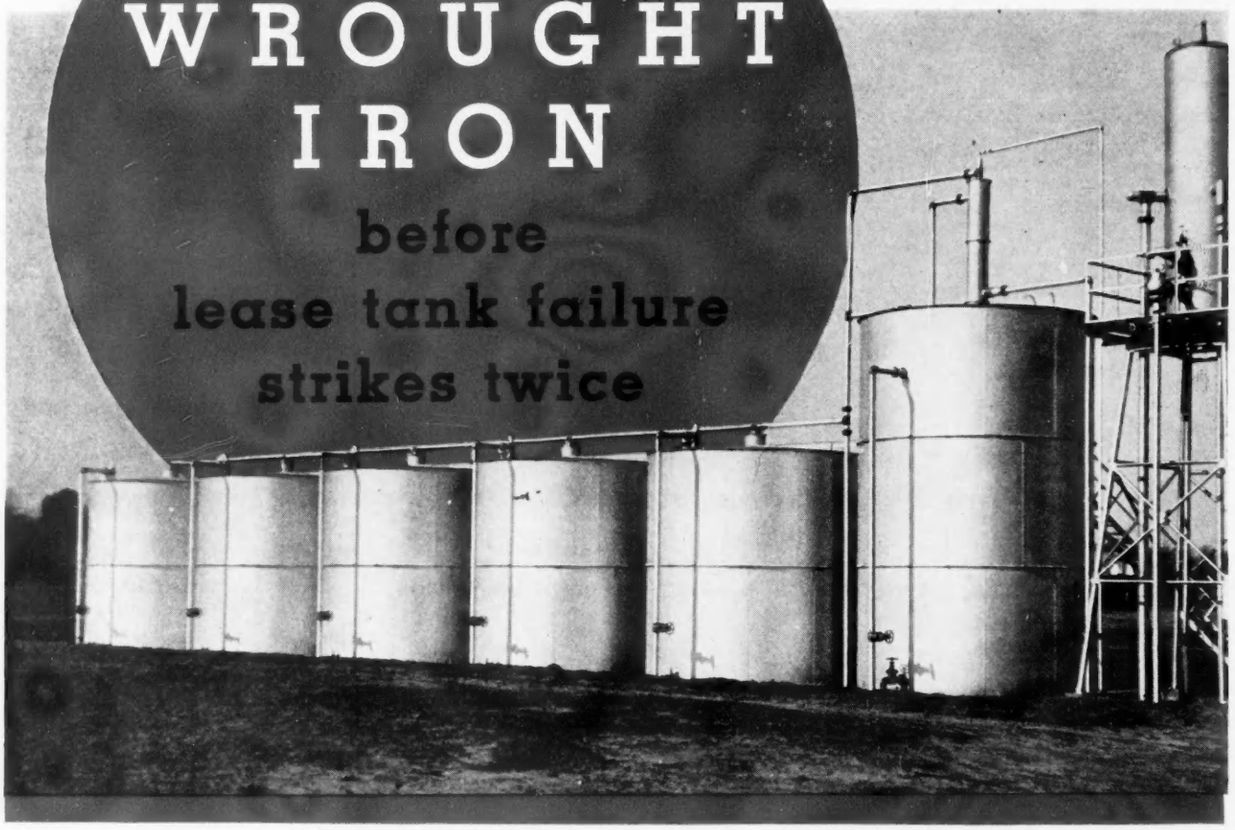
Baker Cement Equipment will always bring you Happy Landings

thru it's 3-point balanced combination of STRENGTH,



VALVE EFFICIENCY and DRILLABILITY, and leave your well in best condition for immediate coring or straight-hole drilling. - Look on pages 168 to 216 of your 1936 for complete information, or write direct to Baker Oil Tools, Inc., Box 71, Huntington Park, California for the large Baker Catalog, sent free to any oil man who requests it.

CHANGE TO WROUGHT IRON before lease tank failure strikes twice



THE second failure comes sooner and costs more. Production output gets more corrosive—never less. The way to lick increasing production costs caused by salt water and sulphur oils is to switch to wrought iron when tank corrosion strikes the first time.

You have ample proof to back you up. Wrought iron has the oldest records of any metal in corrosive service—casing, tubing, tanks, and sucker rods. To this is now added *comparative* data demonstrating wrought iron's superiority over other metals.

Particularly timely are these comparative records on lease tank installations, for wrought iron is getting a big play right now. Leading lease tank manufacturers are featuring tanks (A. P. I. specifications) made of Byers Genuine Wrought Iron.

Before failure strikes twice in the same place, switch to wrought iron. Let us review with you the engineering facts about wrought iron in oil country service. Talk to a Byers oil country engineer or write our Engineering Service Department in Pittsburgh.

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THE OIL WEEKLY

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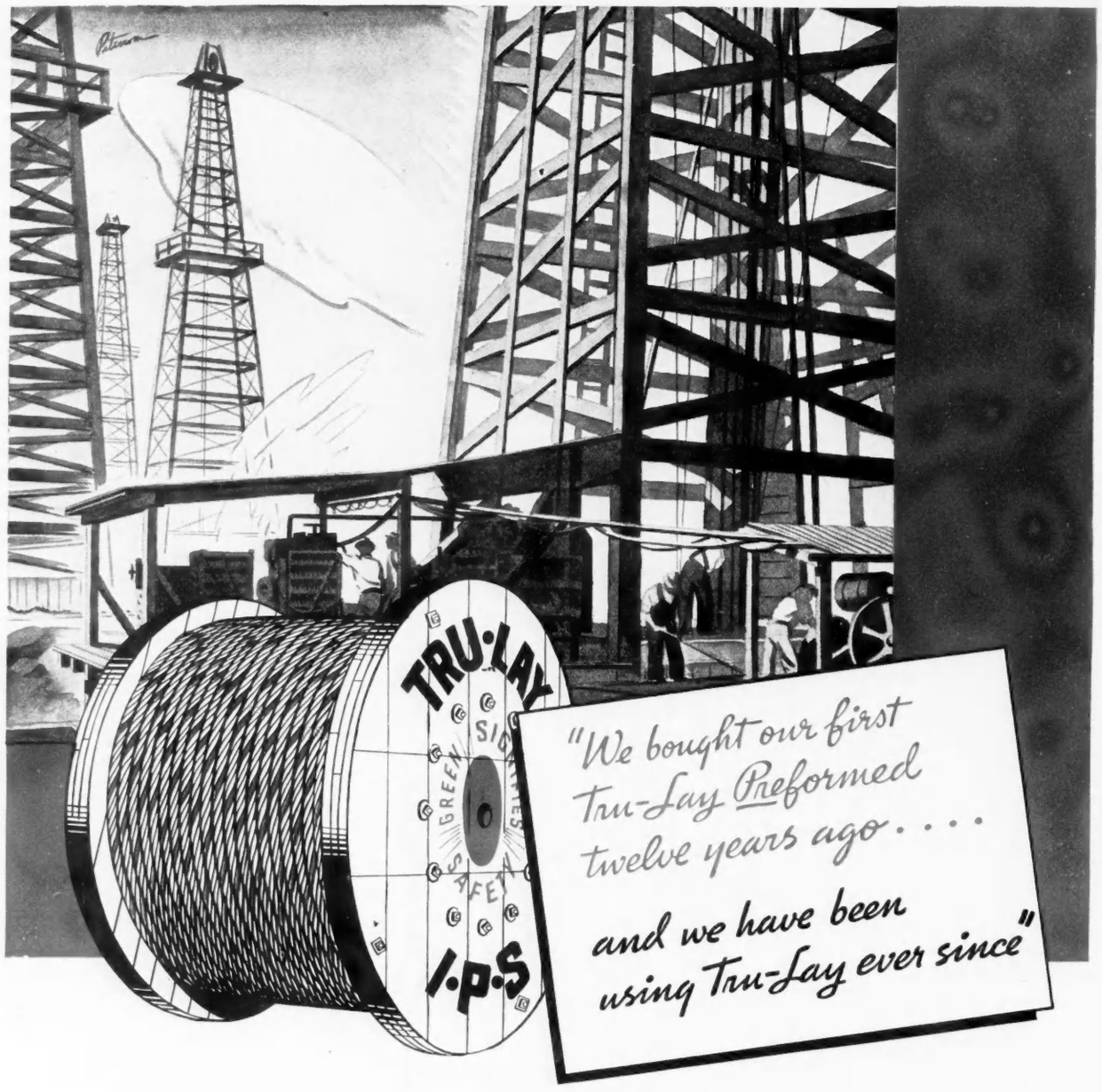

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MAR −4 1936

THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

CALIFORNIA insists on records. Now it is a claim for the deepest gun-perforated casing. After drilling to 11,147 feet and plugging back to 10,760, perforations were shot below 10,500 feet and testing by stages is in progress. This test is in the Kettleman Hills area. Currently there is a revived interest in the possibilities of the deeper strata in the vicinity of Venice and Torrance fields near the Pacific shore. **Page 70.**

A PORTABLE gas engine-driven rig has drilled 9000 feet of hole without even a spark plug being cleaned, and also has recorded a low fuel cost. One reason for this is a gas scrubbing and pressure reducing device that is being used. The gas pressure is reduced from 450 pounds to 25 pounds, and at the same time is scrubbed several times. The device consists of four chambers and a number of reducing valves, and is entirely mounted upon a substructure that permits easy removal from one location to another. **Page 30.**

PREVENTION of frozen lease gas lines are a necessary operation. An interesting method in use to open them in such cases is to have convenient plugs in the line, to which a rubber hose may be attached. By testing each plug the frozen area can be found. When the portion that has frozen is discovered the rubber hose may be used for heating purposes. Another method has been the use of electrical currents projected through the pipe. **Page 25.**

RODESSA is getting its growing national prominence not only because it continues to expand into a major field and that it opened a new producing horizon for its district, but because of the large play it has brought about. Impetus has been added to the search for Trinity production in northeast Texas, northwest Louisiana and southwest Arkansas by developments since Rodessa was discovered, and it appears that the campaign will be one of the largest of 1936. At Talco, Titus County, Texas, a promising area has been opened, while discovery of saturated gas at Sligo in Lincoln Parish indicates a structure similar to the one at Rodessa. Many other shallow producing fields in the Tri-State area have excellent possibilities of carrying Trinity production, and there is a general wide-spread attempt to find structures from Mexia, Texas, to Hempstead County, Arkansas. **Page 19.**

The Oil Man's Calendar

MAR. 19–21	American Association of Petroleum Geologists, Tulsa, Oklahoma.
19–21	Society of Petroleum Geophysicists, Tulsa Hotel, Tulsa, Oklahoma.
APR. 9–10	American Petroleum Institute, Division of Production, Southwestern District, Shreveport, Louisiana.
11–13	Petroleum Industry Electrical Association, Tulsa, Oklahoma.
13–17	American Chemical Society, Petroleum Division, Kansas City, Missouri
14	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles, California.
16–18	National Petroleum Association, Cleveland, Ohio.
20–25	Oil Equipment & Engineering Exposition, Houston, Texas.
MAY 5– 8	American Gas Association, Natural Gas Department, Dallas, Texas.
13–15	American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.
13–15	Natural Gasoline Association of America, Tulsa, Oklahoma.
16–23	International Petroleum Exposition and Congress, Tulsa, Oklahoma.
21	Independent Petroleum Association, Tulsa, Oklahoma.
22	National Stripper Well Association, Tulsa, Oklahoma.
JUNE 18–19	Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.
NOV. 9–12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.

CONSIDERING the trouble California has been having with keeping its current production of crude oil within reasonable demand, it is surprising that a representative from that state should be out in front with a plan for federal research to provide substitutes for petroleum as engine fuel. No doubt the father to the thought is the wave of agitation to require alcohol blending which comes spasmodically from the corn belt. No doubt the proposal will receive favorable consideration in Congress, both by the alcohol blend advocates and those who are just disposed to spend money. Some day, perhaps, there will be a time when substitutes for petroleum are needed, but it does seem that the federal government could wait until supplies under its own public lands and the shales it owns are nearing depletion before it goes into spending money on finding substitutes. **Page 8.**

SAND selectivity is an important operation in the completion of wells, particularly where small changes in depths may change a gas/oil ratio problem to a oil/water problem. Operators in the Gulf Coast and South Texas regions have been devoting much attention to this study, and improvements have been made in properly completing wells. Gas/oil ratios may be controlled by taking in only that part of the sand zone containing oil, and the same is true where water is present. Many operators in the two territories are drilling to the desired depth, setting casing to bottom after coring to determine the best horizons, and then perforating at the desired footage. This has resulted in improved wells in many fields. **Page 32.**

THE American standard of living is so much higher than in foreign countries that the United States consumes one-half of the world's coffee; one-half of the rubber; three-fourths of all silk; one-third of the coal produced; one-half of the sugar; and two-thirds of the world's petroleum products.

Forecast Increase

MOTOR FUEL DEMAND AND CRUDE OIL PRODUCTION IN MARCH

WASHINGTON.

THE daily average required production of crude oil for March, 1936, as forecast by the Bureau of Mines to meet the contemplated demand, is 2,738,900 barrels, an increase of 90,800 barrels over the level recommended for February, and 218,600 barrels above the allowable of the federal agency for March, 1935. The increase of March over February reflects chiefly a much higher estimate for motor-fuel demand, only partially compensated by a lower recommended increase in gasoline stocks.

Motor Fuel

As indicated by unusually heavy additions to gasoline stocks over the past five or six weeks, consumption in January and February will probably prove to be considerably less than estimated. However, this apparent decline in the use of motor vehicles, due to the generally unfavorable weather, may be partially offset in March. The estimate of domestic demand for motor fuel (including natural gasoline losses) for March, 1936, has accordingly been placed at 35,000,000 barrels, or about nine percent higher than the comparable figure of a year ago.

Confidential reports from exporters of gasoline indicate that foreign shipments in March of this year will be about 20 percent higher than in March, 1935. The estimate of exports of motor fuel has accordingly been raised to 2,800,000 barrels.

Stocks

The addition in gasoline stocks recommended for March is 1,780,000 barrels. This increase is based on the assumption that the East Coast, Indiana-Illinois, Oklahoma, Texas Inland, Louisiana-Gulf, and Rocky Mountain districts will meet their objectives for March 31. Stocks in the remaining districts will probably exceed their respective objectives as of that date, but it would be undesirable from an operating standpoint to recommend reductions in these districts sufficient to offset this condition by March 31.

Gasoline Production

"Direct" sales have been increased from 700,000 barrels in February to 900,000 barrels in March, chiefly to offset the inclusion of natural gasoline losses in domestic demand. Deducting this item from total demand plus the stock increase gives 38,680,000 barrels as the required production of finished and unfinished gasoline in March, 1936. This is distributed among the districts as follows (thousands of barrels): East Coast, 6760; Appalachian, 1450; Indiana-Illinois, 6340; Oklahoma, 2440; Kansas-Missouri, 2370; Texas Inland, 2760; Texas Gulf, 8150; Louisiana-Gulf, 1260; Arkansas-Louisiana Inland, 810; Rocky Mountain, 810; California, 5530.

Crude Petroleum

Because of seasonal influences, the percentage of natural gasoline in the refinery gasoline to be made in March, 1936, has been reduced to 6.3 percent from 6.8 percent, estimated for February. The percentage is equivalent to a total of 2,440,000 barrels, which, deducted from the total required production, leaves 36,240,000 barrels of gasoline to be made from crude.

[*Continued on page 10*]

Favor Class C

OKLAHOMA INCREASE TO GO TO SEMI-FLUSH FIELDS

OKLAHOMA CITY

ALTHOUGH Oklahoma operators were pleased with the 22,600-barrel increase in March recommended crude oil demand, there was dissension generally over the proposed allocation of production to pools in the meeting of operators with members of the oil and gas conservation department held here Tuesday, February 25. At the conclusion of the meeting, chief conservation officer W. J. Armstrong recommended that the entire increase be given to the semi-flush and unprorated areas of the state. In the hearing before the commission in the afternoon Oklahoma City operators protested the recommendation, especially in the Wilcox sand zone where a big potential is being developed in the north extension or "Mansion Area". It was believed that the commission would not release the March allowable order until late in the week.

Recommendations for the Class C or semi-flush pools were as follows: Crescent, 5500 barrels, an increase of 500 barrels over the February allowable; Edmond, 10,500 barrels, an increase of 2500 barrels; Fitts-Simpson, 35,000 barrels, an increase of 15,000 barrels; Fitts-Wilcox, 1000 barrels, an increase of 700 barrels; North Searight, 2350 barrels, an increase of 750 barrels; Lucien, 12,000 barrels, an increase of 2000 barrels; South Burbank, 13,429 barrels, an increase of 2000 barrels; North Keokuk, 2250 barrels, an increase of 230 barrels. The unprorated areas were given an increase of 2700 barrels to boost the daily allowable to 144,353 barrels. The Fitts-Wilcox and North Searight pools were reclassified from Class D, the wildcat group, to Class C. Two new pools, the Billings-Wilcox and Healdton-Simpson were added to Class D. Each of the wells is allowed 15,000 barrels free oil as a discovery right, and thereafter 100 barrels per well per day until such time as they are reclassified. A few small increases were granted the wildcat group.

GAS REGULATION

Administration to favor federal control bill

WASHINGTON.

FEDERAL control of the natural gas industry was this week seen as part of the Administration's legislative program, with indications that a measure to put into effect some of the recommendations of the Federal Trade and Federal Power Commissions would be introduced in the near future.

Administration leaders were understood to have sent word to the Capitol that "stringent" regulation should be imposed before adjournment of the session.

The subject of natural gas control has been before the House interstate commerce committee for some time, both the trade commission and the power commission having submitted voluminous reports in which regulation was recommended.

Both bodies charged that grave abuses existed in the natural gas industry, in both financing and operation, and held that the only cure lay in federal control.

A measure incorporating many of the recommendations of the two commissions probably will be written by Representative Lea of California, in which administration of federal regulation will be vested in the power commission. Hearings are expected to be held by the committee as soon as possible after introduction of the bill.

FUEL RESEARCH

Federal investigation proposed in Congress

WASHINGTON.

A FIVE-YEAR investigation by the federal government to develop new fuels for use in internal-combustion engines is proposed by Representative Lea of California in a bill introduced in Congress this week to create a Fuel Research Commission.

A revolving fund of $1,000,000, to be supplied by the Agricultural Adjustment Administration, would be provided for the work of the commission, which would consist of the directors of the Geological Survey, Bureau of Mines, Bureau of Standards, Bureau of Plant Industry and Bureau of Chemistry and Soils.

Under the bill, which has been referred to the committee on interstate and foreign commerce, it would be the duty of the commission "to investigate, develop

and promote renewable sources of supply for fuel adapted to the use of internal-combustion engines; to improve fuels produced from such sources and promote their use in interstate and foreign commerce and in aid of such commerce; and to develop beneficial uses for the by-products resulting from the production of such fuels."

The commission would be authorized to construct, purchase or lease demonstration plants, materials for their operation, lands for the production of such materials and tools, machinery or other equipment. Any products produced in such plants could be sold by the commission but sales would be restricted, so far as practicable, to agencies of the federal government.

The commission would be empowered to continue its operations until December 31, 1941.

EXPORT BAN

Proclamation on oil may await election

WASHINGTON, FEB. 28.

POSSIBILITIES that President Roosevelt might circumvent interests in Congress who defeated attempts to have oil included among the articles not to be exported to belligerents under the neutrality legislation, by denominating it an article of war, this week aroused considerable interest in Washington.

Under the legislation recently passed the President is given considerable latitude in the designation of commodities which can be classed as war materials and their export to belligerent nations prohibited, although efforts to have oil, copper, cotton and certain other commodities specifically named were defeated.

Additions to the list of embargoed commodities by the President within the next few months, it is held, would prove a serious handicap to members of Congress who next fall will seek re-election, particularly in districts which have large Negro and Italian populations. Accordingly, the President's activities under the neutrality legislation will be closely watched and it had been indicated that pressure will be brought to bear upon administration officials not to extend the embargo list until after the close of the campaign.

CONROE HEARING

Water wells to get consideration

Austin, Texas.—A hearing on the Conroe field to be held in Austin on March 10, has been announced by the Texas Railroad Commission. The purpose of the hearing is to consider special allowables for certain wells producing from the upper Cockfield.

Most of the wells affected are making water in large amounts, and, until recently, the commission permitted production in excess of the allowable to keep the head of the water off the sand.

This practice was recently eliminated, and an order issued forbidding the movement of any oil produced in excess of the allowable.

California Raise

FIELDS WHICH HAVE NOT CURTAILED NOT BOOSTED

SAN FRANCISCO.

EFFECTIVE February 26, Standard Oil Company of California increased posted prices of crude oil in all fields of the state except nine, the increases ranging from 5 to 32 cents, according to gravity and type of crude.

The fields receiving increases were those where the producers had reduced daily production to the amount set under the new curtailment plan, which had for its object the reduction of daily output for the state to 537,000 barrels, against an average of about 680,000 barrels early in January.

Production February 22 was 565,447 barrels, and was off to 561,651 barrels on February 24. The fields not affected by the higher prices are Long Beach, Alamitos, Huntington Beach, Playa del Rey, Dominguez, Santa Fe Springs, Elk Hills, Kern Front and the new Lake View area of the Sunset-Midway field. These fields, as of February 22, had a total production of 219,018 barrels, leaving 342,633 barrels to enjoy the increased prices.

Many producers in the fields not securing higher prices have reduced their production to the proper amount, but their neighbors in refusing to curtail caused the certain fields to be placed in the wrong column. The impression is that producers will now curtail according to the general plan, and as fast as they do, such fields will be given raises in keeping with other curtailed fields.

The statement issued by Standard Oil Company follows:

"In January of this year Standard Oil Company of California informed those from whom it buys crude oil that existing production of approximately 680,000 barrels per day threatened the entire oil industry of this state with disaster. It was estimated that to balance supply and demand, leaving petroleum stocks on December 31, 1936, at the same figure as on December 31, 1935, would require production of crude oil not in excess of 537,000 barrels for each day of the year 1936. This figure contemplates additions to storage during the first and latter parts of the year with balancing withdrawals from storage during the intervening peak season.

"The company stated that if production were brought down to this daily average of 537,000 barrels for the year, and such production equitably distributed between all fields, the company would increase the price it offers for the purchase of refinable crude oil to a base price of $1.10 per barrel for 27° gravity Signal Hill crude oil (an advance of 20 cents per barrel), with differentials for other gravities according to usual practices, as well as an advance of at least five cents per barrel in the price for heavy crude oil.

"Committees of the industry, in a co-operative effort, subsequently fixed relative figures of lower production for the various fields upon a basis which operators generally considered equitable. In most of the fields the lower production figure has been achieved. In others substantial progress has been made, and in a few but little has been accomplished.

"Because of the fact that so many operators have already met the lower production figure, and because it is believed that all fields will shortly be fully co-operating, and pending the result of the efforts being made in those fields which have not met the lower production figure, the company will now make effective the higher prices indicated in its offer of January 18 in those fields where the lower production figure has been reached, as of 7:00 a.m., Wednesday, February 26, 1936. The offer of January 18 was conditioned upon the state's total production being an average of 537,000 barrels daily for the entire year.

"In fields where the lower production figure has not been reached, prices will remain unchanged.

"The advanced prices are effective in all fields where the company currently offers to purchase crude oil, except: Signal Hill, Alamitos Heights, Huntington Beach, Playa del Rey, Dominguez, Santa Fe Springs, Kern Front, Elk Hills and the Lakeview area of Midway-Sunset."

MONOPOLY BILL

Move on to exempt oil from provisions

WASHINGTON, FEB. 28.

AMENDMENT of pending anti-monopoly legislation so as to exclude oil producers will be sought in the Senate by Senator King of Utah when the Patman-Robinson bill, aimed primarily at grocery chains but so written as to cover all industries, comes up for consideration, the senator announced this week.

The amendment to be offered by Senator King would specifically protect oil producers and certain other industries against price discrimination and unfair trade practices while at the same time releasing them from the bill's drastic control provisions.

Under the bill as written, it would be unlawful to quote varying prices for the same product to different classes of purchasers, regardless of the quantity purchased. In addition to price discrimination, the measure would outlaw secret rebates, discounts and certain other practices designed to give one purchaser an advantage over another.

PROPERTY SALE

Austin, Texas.—Coffield and Guthrie, Inc., Rockdale oil operators, have purchased 1300 acres in the Powell field from the Stanolind Oil & Gas Company. The property has eight producing wells with an allowable of 140 barrels per day.

[*Continued from page 8*]

The percentage yield of gasoline (a weighted average of district estimates) is 43.99 percent, or slightly below that of the previous month. Applying this factor to the gasoline required gives 82,380,000 barrels of crude to be run to stills.

Imports

Runs to stills of foreign crude for March, 1936, are estimated at 2,900,000 barrels.

Exports, Fuel, and Losses

Dependent largely on the maintenance of heavy shipments of crude oil from the San Antonio (Corpus Christi) customs district, total exports in March, 1936, should approximate 3,900,000 barrels. The item for fuel and losses is left unchanged at 2,300,000 barrels.

Stocks

Provision has been made for the withdrawal of 25,000 barrels daily from crude-oil stocks in March, 1936. Of this amount 20,000 barrels affects California, leaving a net withdrawal of only 5,000 barrels east of California.

Required Production

The proper additions and subtractions gives 2,738,900 barrels as the daily average required production in March, 1936. The breakdown of this figure by states is as follows:

	February 1936	March 1936
Texas	1,068,200	1,104,000
California	529,600	538,800
Oklahoma	483,700	506,300
Louisiana	141,100	151,400
Kansas	137,400	142,000
New Mexico	61,300	64,200
Pennsylvania	42,900	44,800
Michigan	44,800	44,300
Wyoming	34,400	34,800
Arkansas	29,900	31,900
Kentucky	14,500	14,500
Montana	11,900	12,400
Illinois	11,200	11,600
New York	10,500	10,800
Ohio	10,400	10,800
West Virginia	10,300	10,400
Colorado	3,800	3,700
Indiana	2,200	2,200
	2,648,100	2,738,900

With one or two exceptions, all the states have higher recommendations in March than in February. Texas received the largest increase quantitatively, although on a percentage basis the increase given Louisiana was higher than for any of the other leading producing states.

Summary of Forecasts for March, 1936

	Barrels
Demand for Motor Fuel:	
Domestic demand	35,000,000
Exports	2,800,000
Total demand	37,800,000
Supply of Motor Fuel:	
Benzol and stabilized natural	900,000
Refinery production	38,680,000
(Daily average) 1,247,000	
	39,580,000
Less increase in stocks	1,780,000
Available supply	37,800,000
Crude Oil Requirements:	
Natural gasoline blended	2,440,000
Percent yield of gasoline from crude	43.99
Refinery crude required	82,380,000
Imports	2,900,000
Exports	3,900,000
Fuel and losses	2,300,000
Total demand for domestic crude	85,680,000
From stocks	775,000
Required production	84,905,000
Daily average	2,738,900

Texas Increase

MARCH ALLOWABLE FIXED AT 1,110,480 BARRELS DAILY

Austin, Texas.—The Texas Railroad Commission has issued an order fixing an allowable of 1,110,480 barrels per day for March. This new allowable is 6480 barrels per day above the consumer demand for Texas crude as determined by the United States Bureau of Mines, and is 43,488 barrels more than the allowable fixed by the order effective February 1.

Commission Chairman Ernest O. Thompson explained that the commission had purposely fixed the allowable above the figure recommended by the Bureau of Mines because a study of Texas production for the past year indicated that the total production had been consistently below the allowables fixed by the commission. He estimated that the new order would result in the production of about the amount of oil needed to fulfill the demand.

An interesting feature of the new order was a statement in the "findings of facts" intended to clarify the position of the commission in the order issued August 26, 1935.

"Whereas, the railroad commission's special order fixing allowable production of crude oil in the various fields and districts in Texas dated August 26, 1935, contains the following language:

"'We further find from the evidence the more wells that are drilled the greater will be the ultimate recovery of oil and gas from any given pool . . .'

"By this language the commission did not mean and did not find from the evidence that the closer wells are drilled the greater will be the ultimate recovery of oil and gas from any given pool, but by such language only meant and found from the evidence that the more wells that are drilled in conformity with the spacing rules as applicable to the various fields in Texas the greater will be the ultimate recovery of oil and/or gas from any given pool.

"It was not then the intention and it is not now the intention of the railroad commission to abrogate or abandon any of the spacing rules now in effect and applicable to the various oil and gas fields in Texas, nor to militate against the fact basis on which the commission's spacing rules are based . . ."

Attorneys who studied these phrases declared that this finding would be most helpful in reaching a conclusion as to the commission's policies governing the spacing of wells in Texas.

The allowable for the East Texas field was fixed at 2.85 percent of the hourly potential, the same allowance made for February. It was estimated by the commission that this would permit the production of 439,942 barrels of oil per day beginning March 1.

The largest part of the increase went to South Texas, and amounted to 15,830 barrels. Loma Novia was increased 2450 barrels to 9975 barrels. Plymouth was raised 1070 barrels to 6790 barrels. Samfordyce was increased 1005 barrels to 4686 barrels. Saxet Heights was raised 1327 barrels to 1718 barrels. Two new fields, South Clarkwood and Loma Vista, appeared on the schedule for the first time.

The Gulf Coast allowable was increased 5691 barrels to 168,774 barrels per day. Conroe obtained 2000 barrels of this increase, bringing the allowable of that field to 44,025 barrels per day. Barber's Hill was raised 1200 barrels to 17,200 barrels, and there was an increase of 1100 barrels for Anahuac, resulting in an allowable of 5000 barrels per day for that field. One new field, Turtle Bay, was added to the schedule for the Gulf Coast.

West Central Texas was the only district in which there was a reduction, and this amounted to only 376 barrels.

West Texas fields were increased 13,647 barrels. South Ward was raised 2000 barrels to 12,245 barrels per day, and the North Ward increased 5850 barrels to 12,000 barrels per day. These particular increases were ordered to permit Texas to supply oil which would otherwise be furnished from fields in New Mexico. Sam Hill, Emperor, and Dobbs, three new fields were added to the West Texas schedule.

In the appended table the relative allowable, fixed by the commission on February 1 and March 1, in the various districts, is indicated.

Texas Allowable

District—	March 1 Allowable	February 1 Allowable
Rodessa	500	500
East Texas	439,942	432,264
Panhandle	58,800	58,800
Moore County	1,500	1,500
Osborne Area	1,000	1,000
North Texas	58,500	58,500
Foard County	500	500
West Central	50,612	50,991
West Texas	147,965	134,318
East Central	50,225	49,207
Southwest Texas	132,159	116,329
Gulf Coast	168,774	163,083
	1,110,480	1,066,992

Allowable for gas was fixed at 1,668,355,000 cubic feet per day. This was the equivalent of the nominations filed by purchasing companies, indicating their needs for March. It was approximately 100,000,000 cubic feet more than the allowable fixed by the order effective on February 1.

BAY CITY HEARING

Austin, Texas.—The Texas Railroad Commission has set for hearing on March 3 at Austin, Texas, rules for the spacing, drilling, completion, and operation of wells in the Bay City field in Matagorda County. The principal subject for discussion will be the regulation of spacing.

International Model C-55-F dual-drive six-wheeler used by Guy Nall, Seminole, Okla., for heavy-duty hauling in the fields.

There Is a Complete Line of International Six-Wheel Trucks—in Trailing-Axle and Dual-Drive Types

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This illustration shows the flexibility of the International six-wheel mounting, which allows free up and down movement of the four rear wheels.

•

There are seven International models of the trailing-axle type. Two of them—Models CS-35-T and CS-40-T—are available with two-speed rear axles. There are two models of the dual-drive type—Models C-40-F and C-55-F—both of which are regularly equipped with auxiliary over-drive and under-drive transmissions.

INTERNATIONAL HARVESTER

Favorable Month

BETTER PRODUCTION CONTROL FEATURES FEBRUARY RESULTS

By L. J. LOGAN, Associate Editor

THE oil industry's operations were generally more satisfactory in February than in January, as better control of crude production probably more than compensated for less favorable weather for gasoline consumption.

Prices of refined products were mostly unchanged during February, at the higher levels that had been set around the middle of January, and crude postings, similarly, continued at the recently improved levels.

Although the severe weather of most of the month interfered appreciably with gasoline consumption, there was a compensation for the industry in the greater demand for fuel oil that was stimulated by the low temperatures. The fuel oil prices improved during the month.

Financial results obviously were generally favorable under these circumstances of improved prices and comparatively large demand for the industry's products as a whole.

Industry in Strong Position

Back of the continuing favorable markets was the further maintenance of a satisfactory statistical situation. Crude production was adjusted during the month to a much closer conformity with the market demand, due largely to sharp curtailment in California. For the month, the above-ground stocks of crude in the country are indicated to have decreased. In the meantime, gasoline stocks increased rather sharply, but the increase was seasonal in nature, and was more or less in line with the usual gains for the time of year. The gasoline stocks near the end of February were higher than a year previously, but the increase was about proportional to the gain in consumption within the year.

Crude Storage Decreases

Although official figures are not available for the latter part of February on the nation's crude oil stocks, pertinent data indicate that the month brought a decrease in the quantity in storage. The Bureau of Mines has reported that the total stocks declined from 312,857,000 barrels on February 1 to 311,148,000 barrels on February 15. After the latter date further decrease is indicated in view of the sharply curtailed crude production in California, and considering the comparatively heavy runs to refinery stills, in the program of building up gasoline stocks. The crude storage situation is decidedly favorable, as the 311,148,000 barrels on hand February 15 compared with 314,631,000 barrels held at the beginning of the year. The crude stocks are the lowest for about nine years.

Production Better Controlled

During February there was an encouraging improvement in the crude production situation, as California early in the month began cutting down its output sharply, in accordance with a voluntary curtailment program. The state produced substantially more crude than the market demand, but the excess was small in comparison with that in the previous month. Louisiana also showed a material excess above its economic level, as in January. But outside of California and Louisiana, the nation's crude production in February was remarkably well balanced with the existing demand.

For the month, the country as a whole produced 124,183 barrels per day more than the amount recommended by the Bureau of Mines, as compared with excesses of 253,779 barrels daily in January and 286,650 barrels daily in December. During February the actual output averaged 2,772,283 barrels daily, compared with a recommendation of 2,648,100 barrels per day. The figure given on production is based on the weekly reports of the American Petroleum Institute. These reports do not take into consideration any oil produced surreptitiously, but such production in recent months has been down to almost negligible proportions. The East Texas field has been the scene of most of such production, and in recent weeks it has been estimated that the hot oil output there has been averaging only about 10,000 barrels per day, or less.

California Reduces Output

Despite the sharp curtailment effected there, California in February accounted for nearly one half of the national excess of crude production above the Bureau of

Excesses of Average Daily Crude Production Above Bureau of Mines Recommendations

STATE	February, 1936			January, 1935		
	Production	Demand	Excess	Production	Demand	Excess
California	589,838	529,600	60,238	679,242	517,800	161,442
Louisiana	192,223	141,100	51,123	177,405	132,600	44,805
Texas	1,070,874	1,068,200	2,674	1,040,266	1,017,200	23,066
Other States	919,348	909,200	10,148	916,066	891,600	24,466
United States	2,772,283	2,648,100	124,183	2,812,979	2,559,200	253,779

Crude Oil Stocks

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the United States.

At End of:	Total Bbls. In Storage
November, 1933	355,614,000
December	355,394,000
	*354,305,000
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September	348,937,000
October	346,415,000
November	341,165,000
December	337,254,000
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000
May	338,559,000
June	334,757,000
July	329,351,000
August	324,966,000
September	320,705,000
October	317,155,000
November	315,558,000
December	314,631,000

Trend of stocks situation since end of December, figures being from weekly reports to Federal government, embracing 98 percent of total stocks, excluding those of producers.

December 28	297,051,000
February 1	296,407,000
February 15	294,698,000

*** On revised basis, 1, 089,000 barrels having been transferred from crude to fuel oil in California.**

Motor Fuel Stocks

(American Petroleum Institute figures, as shown in weekly reports)

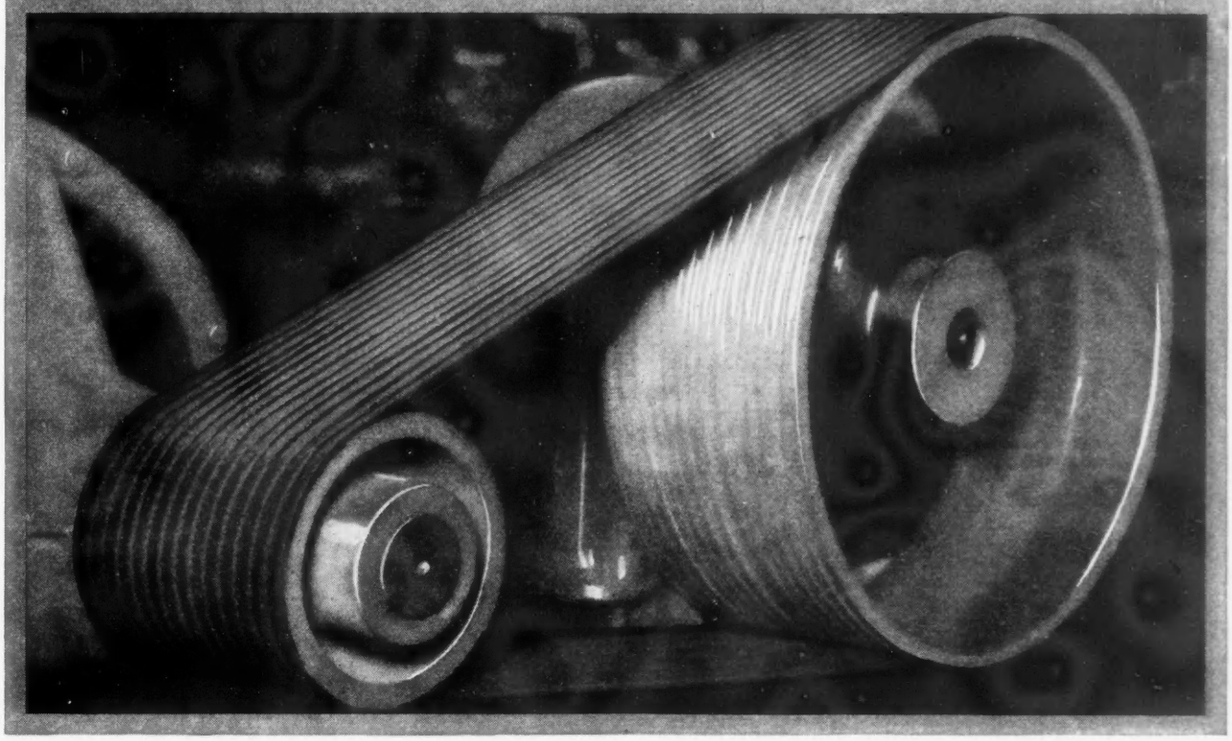
DATE	Motor Fuel. Stocks, Bbls
December 30, 1933	51,580,000
January 27,1934	50,229,000
February 24	55,976,000
March 24	57,879,000

After March 24, 1934, figures shown represent stocks of finished gasoline, to be marketed as motor fuel, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24, 1935	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 17	*39,892,000
December 1	40,831,000
December 29	43,969,000
January 26, 1935	47,888,000
February 23	54,399,000
March 2	55,654,000
March 16	†57,406,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 29	50,007,000
July 27	48,157,000
August 31	43,787,000
September 28	42,976,000
October 26	41,163,000
November 9	*40,780,000
November 30	43,190,000
December 28	46,472,000
January 25, 1936	50,368,000
February 1	52,831,000
February 22	58,597,000

*** Low point of year.**
† High point of year.

NO LOAFERS



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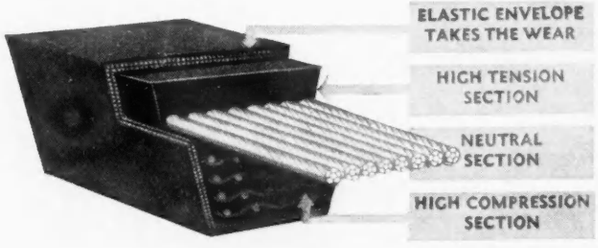

That is why Goodyear Emerald Cord V Belts have a higher safety factor, eliminate breakage troubles, last longer and reduce costs. Every one pulls equally — *one or two don't do it all!* Made in five standard cross-sections and lengths up to 360 inches; longer on order. Let the G. T. M. — Goodyear Technical Man — demonstrate this superior belt to you. Write Goodyear, Akron, Ohio, or Los Angeles, California — OR THE NEAREST GOODYEAR MECHANICAL RUBBER GOODS DISTRIBUTOR.

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EMERALD CORD V BELTS

United States Production

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced.)

MONTH	Daily Average (Barrels)	Federal Estimate of Demand
January, 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	[1]2,307,000 [2]2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	2,695,100	2,651,000
July	2,707,150	2,660,000
August	2,676,250	2,600,600
September	2,737,750	2,613,000
October	2,780,850	2,554,200
November	2,825,900	2,563,700
December	2,826,850	2,540,200
January, 1936	2,818,300	2,559,200
February	[3]2,772,283	2,648,100

[1]December 1-16.
[2]December 17-31.
[3]Preliminary, subject to revision.

Mines recommendation. The state showed an excess of 60,238 barrels per day on the average for the month, having produced at the average rate of 589,838 barrels per day, whereas the suggested production was only 529,600 barrels daily. However, the 60,238-barrel daily excess for February was a great improvement over the 161,442 barrels of excess per day in January and the 164,484-barrel daily overproduction in December.

The California producers embarked on their curtailment program about the opening of February, striving to cut the state output down to 537,000 barrels daily from the level of about 680,000 barrels daily maintained in December and January. In each of the first two weeks of February the California daily production was reduced around 50,000 barrels daily, and in the latter half of the month some further curtailment was achieved. It had been promised that crude prices would be raised if the 537,000-barrel goal was reached. Although the state still was around 30,000 barrels above that level, the prices were raised February 26, except in certain fields that had failed to curtail in accordance with the program mapped out.

Louisiana Shows Excess

Louisiana showed almost as great an excess of crude production as California during February. Averaging 192,223 barrels per day, the Louisiana production was 51,123 barrels daily above the Bureau of Mines recommendation, although in line with the conservation orders of the Louisiana state authorities. The 51,123-barrel excess above the bureau suggestion compared with excesses of 44,805 barrels daily in January and 37,479 barrels daily in December.

Although it had produced somewhat above the Bureau of Mines recommendations in preceding months, Texas conformed closely with the bureau suggestion in February. The state's output of 1,070,874 barrels daily was only 2674 barrels per day more than the federal government allocation of 1,068,200 barrels daily. In January Texas had shown an excess of 23,066 barrels daily, and in December, an excess of 58,785 barrels per day.

January Mars 1936 Record

Since crude oil production was conspicuously excessive in January and still had not been brought down to the economic level in Feburary, the record for 1936, so far, is one of overproduction of crude. For the two months, the output for the whole country has been 167,750,250 barrels, or 13 percent more than in the first two months of 1935. It is true that demand has been higher this year, but it has not been sufficiently higher to justify a 13 percent increase of production. In recent months the total demand for petroleum has been running only about six percent above the requirements in the corresponding months of 1935.

Fortunately, the national increase of production over last year's record has been held at least within the mentioned 13 percent, by virtue of only moderate gains of six percent each for Texas and Oklahoma, two of the chief producing states; while Kansas, another of the five leading producing states, has shown a decrease of one fourth of one percent.

Largely responsible, on the other hand, for the sharp rise of the nation's crude production curve, have been the records for California and Louisiana, the other two of the "Big Five" among the producing states. California production was 29 percent greater for the first two months of 1936 than for those months of 1935. Louisiana output, similarly, was up 67 percent. Louisiana has emerged clearly into fourth place among the producing states, having gone ahead of Kansas. Other states in which production has increased notably as compared with a year ago include New Mexico, with 24 percent more output in the first two months of 1936 than in those months of 1935; Michigan, with a 17 percent gain; and Montana, with a 14 percent increase. Other gains included one of 3½ percent for Colorado, and one of 2½ percent for Wyoming. In contrast, there have been decreases of 2½ percent for Arkansas and one percent for the Eastern States, as well as the one-fourth percent for Kansas.

Gasoline Stocks Increase

In the process of building up inventories, as usual, in preparation for rising consumption in the spring, the industry added more than 5,500,000 barrels of finished gasoline to storage in the first three weeks of February. In the similar period of 1935 it added almost 5,000,000 barrels to the storage; while in February, 1934, the comparable increase of motor fuel stocks was nearly 4,500,000 barrels. It is seen, therefore, that the increase of gasoline stocks for February, this year, was about in line with the usual trend, considering that demand is running higher in 1936, being around eight percent above the level of a year ago.

The American Petroleum Institute showed that reported stocks of finished gasoline aggregated 58,597,000 barrels on February 22. That total compared with 54,399,000 barrels on hand Febru-

United States Drilling and Production in First Two Months of 1936 and 1935

STATE OR DISTRICT	WELLS COMPLETED			BBLS. OF CRUDE PRODUCTION		
	In 1936 (2 Mos.)	In 1935 (2 Mos.)	Percent Change	In 1936 (2 Months)	In 1935 (2 Months)	Percent Change
Oklahoma	381	284	+ 34	30,184,050	28,489,000	+ 6
Kansas	177	160	+ 11	8,303,800	8,326,050	—¼
Texas	1,499	1,525	— 2	63,306,300	59,616,450	+ 6
Louisiana	122	110	+ 11	11,125,900	6,647,100	+67
Arkansas	14	37	— 62	1,793,800	1,838,250	— 2½
Southeastern States	.....	3	—100	.....	.....	....
Eastern States	421	398	+ 6	6,077,550	6,145,850	— 1
Michigan	109	51	+114	2,302,750	1,957,150	+17
Wyoming	5	1	+400	2,020,550	1,972,900	+ 2½
Montana	15	11	+ 36	773,650	679,450	+ 14
Colorado	.....	1	—100	237,150	228,900	+ 3½
New Mexico	57	46	+ 24	3,462,550	2,803,700	+24
California	131	137	— 5	38,162,200	29,485,500	+29
Total	2,931	2,764	+ 6	167,750,250	148,190,300	+13

Wells Completed in the United States

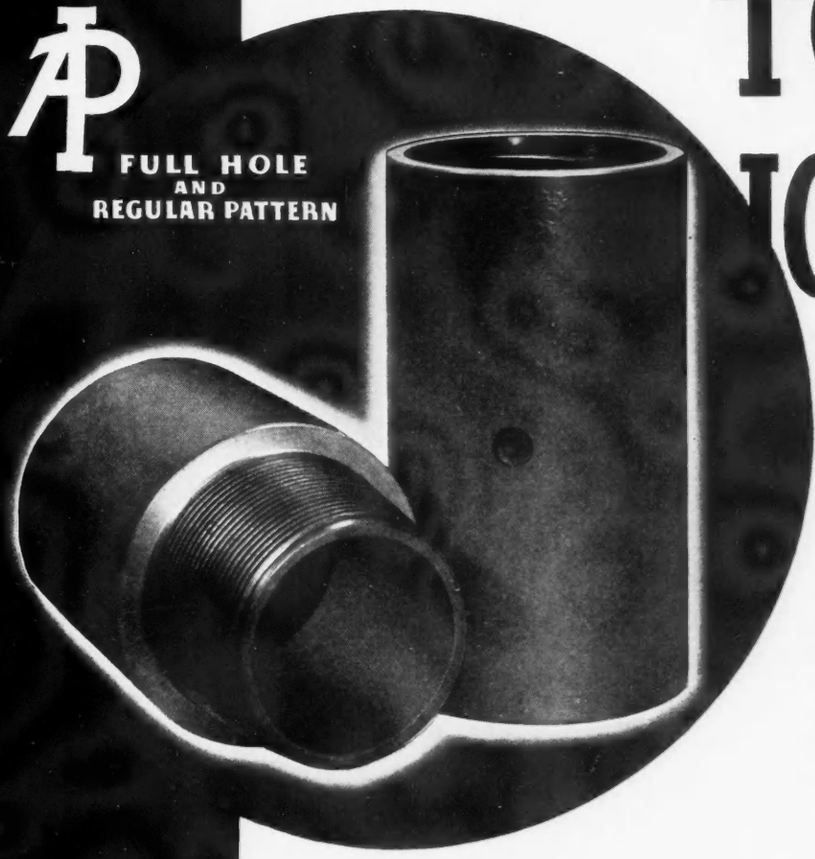
(Including oil wells, gas wells, and dry holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49.6
March	48.8
April	58.5
May	*63.6
June	58.6
July	60.9
August	62.8
September	57.9
October	57.1
November	55.2
December	54.2
January, 1936	52.4
February	51.6

*** Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.**

TOOL JOINTS

FULL HOLE AND REGULAR PATTERN



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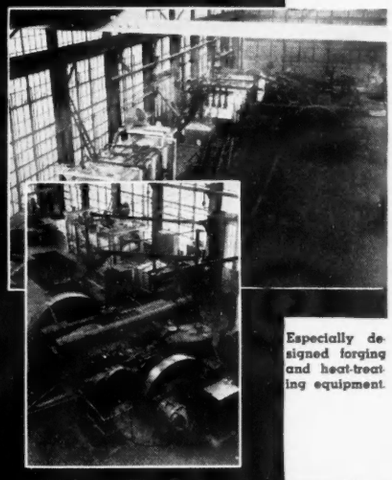

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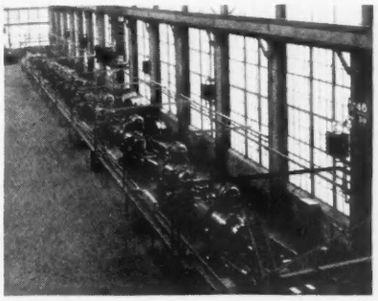

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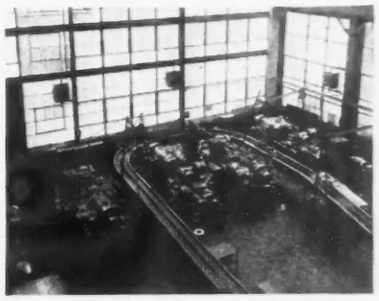

Thread millers that represent the ultimate in machine tool refinement for the most accurate possible threading.

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United States Drilling and Production, February, 1936, and Cumulative for Year

STATE OR DISTRICT	MONTH OF FEBRUARY, 1936						CUMULATIVE, JANUARY THROUGH FEBRUARY, 1936					
	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	†Total Bbls. Oil Prod.	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	†Total Bbls. Oil Prod.
Oklahoma	177	131	12	34	137,338	14,841,300	381	262	27	92	379,827	30,184,050
Kansas	88	56	8	24	34,697	3,970,400	177	121	14	42	115,953	8,303,800
Texas	720	564	22	134	940,246	31,055,350	1,499	1,144	49	306	2,000,146	63,306,300
Louisiana	55	37	6	12	173,068	5,574,450	122	84	11	27	367,415	11,125,900
Arkansas	9	2	....	7	595	862,500	14	4	....	10	2,345	1,793,800
Southeastern States	....	....	....	....	.....	.....	....	....	....	....	.....	.....
Eastern States	250	80	108	62	1,254	2,883,000	421	118	186	117	1,548	6,077,550
Michigan	41	21	9	11	4,640	1,036,300	109	55	19	35	12,854	2,302,750
Wyoming	1	1	....	....	3,120	927,300	5	3	2	....	3,904	2,020,550
Montana	5	1	3	1	900	371,100	15	10	3	2	1,669	773,650
Colorado	....	....	....	....	.....	113,100	....	....	....	....	.....	237,150
New Mexico	35	31	2	2	.....	50,202	57	49	4	4	78,414	3,462,550
California	64	52	3	9	36,850	17,105,300	131	106	6	19	61,830	38,162,200
Total	1,445	976	173	296	1,332,708	80,396,200	2,931	1,956	321	654	3,025,105	167,750,250

*February completions here shown represent not the calendar month, but the four weeks, or 28 days, ended February 22. †Preliminary, subject to revision.

ary 23, 1935, and with 55,976,000 barrels in storage February 24, 1934.

Weather Holds Down Drilling

Drilling activity was perceptibly impeded during February by the extreme cold weather that prevailed throughout most of the country. The field work was slightly lower than in January, whereas there had been a small increase for February a year previously. For the four weeks ended February 22, 1936, completions of wells in the United States averaged 51.6 daily, compared with 52.4 daily in the preceding four weeks. However, the 51.6 completions daily in February this year were four percent above the 49.6 wells per day finished in February, last year. They were 35 percent above the 38.1 average of two years ago, that is, February, 1934; and were 69 percent higher than the 30.6 wells per day completed in February, 1933, or three years ago.

For the first two months of 1936 well completions totaled 2931, or six percent more than in the similar period of 1935. Noteworthy increases in field work are indicated, in such a comparison, for Oklahoma, New Mexico, and Michigan, while moderate increases have occurred also in Kansas, Louisiana, Montana, and Wyoming. Small gains are shown also for the Eastern States. California drilling has been about the same as in the early part of last year, but slight decreases are indicated for Texas, the Southeastern States, and Colorado, while a more important decline has occurred in Arkansas.

CULLINAN ELECTED

Wilmington, Del.—Craig F. Cullinan, of Houston, was elected February 27 as president of the American Republics Corporation, to succeed his father, J. S. Cullinan. L. B. Coppinger, also of Houston, was elected a director to succeed E. D. Steele, Jr., of Wilmington. E. J. Floeter was elected secretary, W. F. Sinclair, treasurer, and J. S. Cullinan, chairman of the stockholders' advisory committee.

FAST MOVERS

When Westgate Oil Company found it necessary to move a gas-lift plant at Oklahoma City as rapidly as possible because of producing conditions, J. F. Looker (left), gas-lift engineer, and R. E. McCollum, master mechanic, were called upon. An elapsed time of but 15 days was required before the plant was in operation at a new location.

TIDE WATER DIVIDEND

New York.—Directors of Tide Water Associated Oil Company on February 27 declared a quarterly dividend of $1.50 a share on the company's six percent cumulative convertible preferred stock, payable April 1 to stockholders of record March 12.

AGREE ON CODE

Chicago.—A committee of about 100 men, representing 12 Middle Western states, was virtually agreed here February 27 on a voluntary oil marketing code, which will be submitted to the Federal Trade Commission for approval. The sponsors hope the plan will be accepted as a model for the whole petroleum industry. The committee is headed by P. J. Schroeder of Minneapolis.

DIED:

MELVIN J. COLLINS, 38, chief geologist for Plymouth Oil Company, died at his San Antonio home February 22 at 6:50 a.m. He had been a resident of San Antonio for the past four years, and was a member of the Methodist Church, San Antonio Geological Society, National Scientific Society, A.F.&A.M., and Sigma Phi Epsilon at the University of Colorado. He is survived by his widow; one daughter, Emily Ruth Collins; one son, Albert Collins, all of San Antonio, and three sisters, Mrs. M. J. McClure, Chicago; Mrs. B. N. Shelton and Miss Helen Collins, both of Denver, Colorado. The body was sent to Ballenger, Texas, for interment.

H. G. CAMP, 56, employee of the Texas Railroad Commission the past five years and a former South Texas oil operator, died of pneumonia at Gladewater, February 27. He is survived by his widow, of Austin, and two sons and two daughters.

R. E. (Sarge) KING, 43, for 15 years connected with the legal department of Gulf Refining Company at Shreveport, died last week. Before going with the Gulf Refining Company he was for a time a scout for Sun Oil Company.

MEN IN THE INDUSTRY'S NEWS

GEORGE C. GIBBONS, Ardmore, Oklahoma, has been appointed executive vice president of the Texas Division of Mid-Continent Oil & Gas Association, according to Jake L. Hamon, president. Eight vice presidents, residing in each of the important oil and gas producing sections of the state, have been selected by the president. Eugene McElvaney, Dallas, was made secretary, thus completing the task of reorganizing the body after being somewhat dormant for several years.

Gibbons has resigned as manager of the Ardmore Chamber of Commerce, and will move to Dallas to take command of the state headquarters of the association. He is familiar with all phases of the oil business, and is identified as one of the organizers of the Independent Petroleum Association of America. In recent years he has spent much time in Washington working with the independent group on legislative matters pertaining to the petroleum industry.

Vice presidents chosen for the ensuing year follow: Al Buchanan, San Antonio, Southwest Texas; D. Harold Byrd, Dallas, East Texas; H. R. Cullen, Houston, Gulf Coast; E. J. Dunigan, Jr., Pampa, Panhandle; J. C. Hunter, Abilene, West Texas; R. A. King, Wichita Falls, North Texas; Paul W. Pitzer, Breckenridge, West Central Texas, and Lloyd Wheelock, Corsicana, East Central Texas.

CHARLES F. ROESER, president of the Independent Petroleum Association of America, was the principal speaker at a luncheon given in his honor by Winston P. Henry, president of Putnam Oil Company, at Houston, February 25. The luncheon was attended by 50 Houston oil men. In his talk, Roeser reviewed accomplishments of the organization he heads in its work of restricting imports of crude oil and obtaining higher prices for domestic production.

PAUL W. PITZER, who is associated with C. K. West in the operation of a number of producing properties in West Central and East Texas, was elected president of the West Central Texas Oil & Gas Association, at annual meeting held February 22 at Breckenridge. He succeeds Marshall R. Young, vice president and production manager for Roeser-Pendleton, Inc. Both reside at Breckenridge. L. S. Hall, Abilene, and Dillard Henson, Graham, were elected vice presidents of the body.

W. L. PICKENS, Dallas operator, has been elected president of Solvex Pipe Line Company and administrator of other East Texas properties owned by George L. Culver, Dallas, who was killed in a plane crash February 16.

G. N. SHELDON, former lease buyer for Simms Oil Company in West Texas, and now operating independently with headquarters at Midland, Texas, was a business visitor in Dallas early last week.

HAROLD ADKISON, for the past five years secretary of the Mid-Continent Section, Petroleum Division of the American Society of Mechanical Engineers, has resigned to accept a position with Dowell Incorporated. Adkison is an engineering graduate of the University of Oklahoma.

BURDETT BLUE, president of Indian Territory Illuminating Oil Company, was advised on Friday, February 21, of the death of his mother, Mrs. Inez Blue, at Lakeland, Florida. Mr. and Mrs. Blue left Bartlesville the next day for Wabash, Indiana, where the funeral was held on Monday.

J. E. HALE, chief engineer for Firestone Tire & Rubber Company, Akron, Ohio, was the principal speaker at the regular monthly meeting of the Petroleum Motor Transport Association of Oklahoma, February 28. His subject was, "When Is a Truck Tire Overloaded."

WALTER H. WIEWELL, manager of tubular sales for Jones & Laughlin Steel Corporation, Pittsburgh, is on a tour of oil centers in the Mid-Continent, Texas and Gulf Coast areas.

RALPH A. BRANDT, micro-paleontologist for Atlantic Oil Producing Company, has returned to his headquarters in Tulsa after watching a company wildcat in Stafford County, Kansas.

H. W. CAMP, general superintendent of the refining division of Empire Oil & Refining Company, has been named manager of the division with headquarters in Tulsa, succeeding the late P. M. Miskell. Camp is a graduate of the University of Washington, 1910, with a degree in engineering. He at one time was with Union Oil Company of California and in 1917 joined the Empire organization. Since 1920 he has directed the operating and technical work of the company's refineries. His successor as general superintendent is Louis D. Mann, an engineering graduate of Union College, Schenectady, New York, and since 1917 connected with the refining division of Empire. In 1926 he became assistant to Camp after having been superintendent of the refineries at Oklahoma City and Cushing.

FRANK M. ROOME, representative of the land department of Standard Oil Company of New Jersey in Los Angeles, California, has been transferred back to Tulsa to serve in the land department of Carter Oil Company. Roome first entered the employ of Carter Oil Company in 1916 and in 1923 he was transferred to California after having held the position of chief scout.

RALPH D. CURTIS, engineering department of Gulf Oil Corporation, resigned February 15 to become proration engineer and assistant to James S. Noland, manager of proration affairs for Barnsdall Oil Corporation.

CLIVE PEARSON, son of Lord Cowdray, founder of Mexican Eagle Oil Company, and himself one of the leading English industrialists, J. B. Body, John Tanner and Henry W. Masters, all of London, and associates of Mr. Pearson; Alfred Jacobsen, New York, president of Amerada Petroleum Corporation; Allmond Blow, H. G. Officer, and B. B. Weatherby, vice presidents of Amerada from Tulsa; Alex Thompson, chairman of the board of Champion Paper and Pulp Company, Hamilton, Ohio; Ruben Robertson, vice president of Champion, at Canton; Lucius Wilmerding of Gray & Wilmerding, New York, and Chas. St. Gore of San Francisco, were the guests of honor at a luncheon given by George Hill, president of Houston Oil Company at the Tejas Club in Houston Thursday. Local guests included the heads of the principal oil companies and resident managers of oil companies in Houston.

PAUL P. STEED, lease buyer for Simms Oil Company for a number of years and more recently with the Tide Water Oil Company, has resigned from the latter company to take charge of a district office established at Dallas by Lion Oil Refining Company, El Dorado, Arkansas. The Dallas branch is located in the Magnolia Building, and it will have jurisdiction over all activities of the company in Texas. Hallibrew Barton has been engaged as a scout, and one or more geologists will work out of the Dallas office.

H. R. S. ABBOTT, Scalebuoy Company, Boston, Massachusetts, spent a part of the week in Tulsa in conference with C. W. Cotton, local representative.

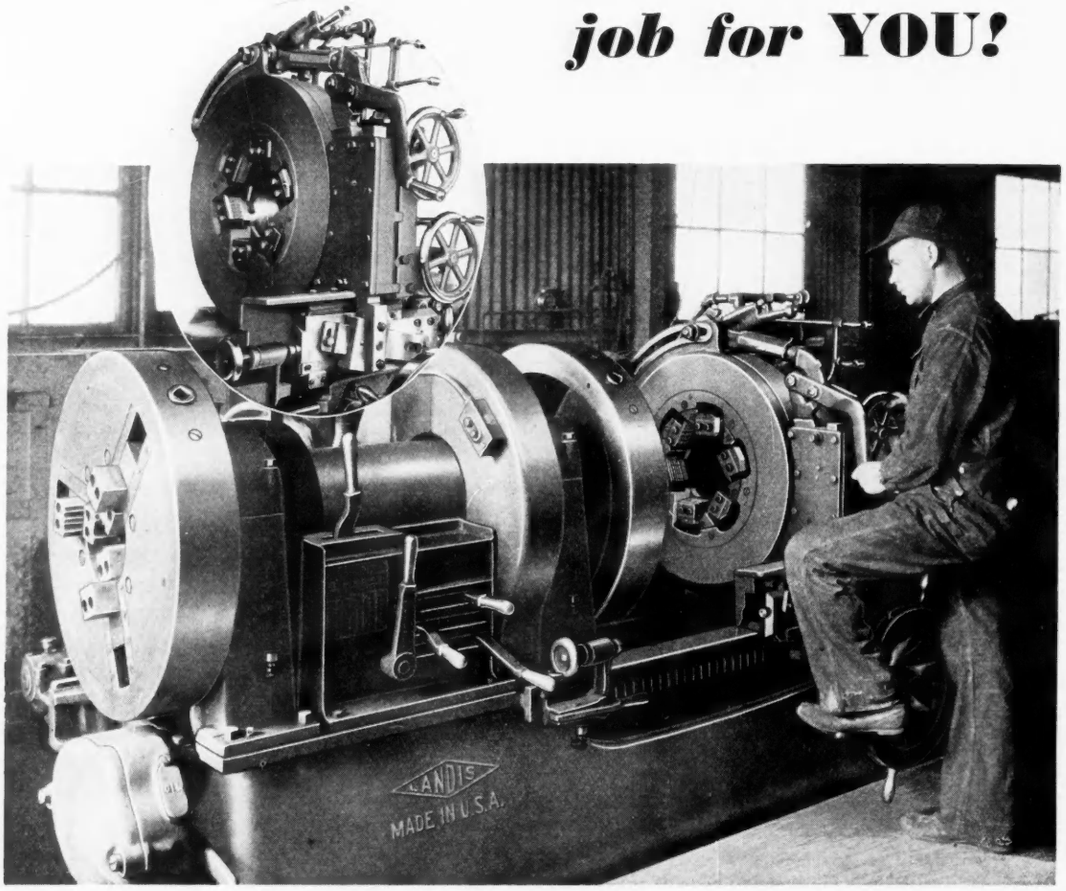
DAVID WHITAKER, vice president of F. W. F. Oil Company, Houston, has been in Philadelphia and New York on business, and is returning to Houston via Miami, Florida. He was in an automobile accident at Miami which delayed his return to Houston, but reports he will be in Houston the first of the month. No one was seriously hurt. Mr. Whitaker took his family on this trip with him.

WALTER WELLS, president of The Lane-Wells Company, is spending the week in Houston. While here he will make a trip to Corpus Christi with Elmer Smith, manager of the Texas division to inspect the new service plant the company is constructing to handle the business in that section of the Gulf Coast.

J. W. STEELE, former oil man and more recently an official of the United States Geological Survey, has been appointed a member of the Federal Tender Board No. 1, stationed at Kilgore in the East Texas field. He will fill the vacancy in the three-man board caused by the retirement last January of James A. Frear, who was chairman.

RUBE COTULLA is in charge of a new office which Winsor Oil Company has opened in San Antonio.

Because it is designed for oil field work, a LANDIS *will do a better job for* YOU!



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Big Area Is Opened

RODESSA INDICATES LOW CRETACEOUS SHORELINE POSSIBILITIES IN ARKANSAS

By H. D. EASTON, Consulting Engineer,
Slattery Building, Shreveport, Louisiana

RODESSA not only continues to expand into a major pool of large individual well capacity, but it also has opened a new oil horizon in the Glen Rose, middle member of the Trinity Series in the Lower Cretaceous. Located near the northwest corner of Louisiana, the Rodessa field is expected to become a tri-state field of oil and gas, and a tri-state problem as to proration.

New Developments Add Impetus

In addition to a feverish drilling campaign under way in Rodessa proper, there has been a tremendous increase in activity in Northeast Texas, Southwest Arkansas and North Louisiana, as a result of this Rodessa boom. Further impetus has been given to the exploration campaign in this area by the recent gas discovery in the Glen Rose in Lincoln Parish, and in the newly discovered deeper Glen Rose horizon of saturated gas in the Sligo field of Bossier Parish, which indicates a strong probability that it will also develop big oil production.

Northern Titus County, Texas, about 70 miles northwest of Rodessa, has good prospects now of making an oil field in the Lower Cretaceous at a depth of 4208 feet where a drill-stem test east of Talco made a big showing February 8. This showing has started greatly renewed life in that part of Texas and Arkansas to the north of Rodessa. This is located north of the Tyler Basin and opens a new geographical province (northeast Texas and southwest Arkansas) and also a new geological province beyond the Rodessa syncline where the beds are rising steadily to the north until they reach daylight.

Before discussing other possibilities in this general area it is of interest to take a closer look at Rodessa. Production is being obtained in this field from "sands", locally differentiated from top to bottom as the Hill, Gloyd, Dees and Young sands, which actually are not true quartz sands but are largely oolitic lime found beneath the Glen Rose anhydrite. Oolitic lime is composed of tiny pellets of grey lime having much the same size and color of a mass of fish eggs, hence the name. These "sands" are composed of small lime balls and may constitute porous reservoirs which can contain oil and gas.

The first anhydrite in productive wells at Rodessa has been found at sub-sea depths ranging from about —4575 to —4875 feet, the higher wells producing gas only. The Hill sand produces gas and the Gloyd zone produces both oil and gas. The Hill sand is found at depths around —5260 to —5485 feet and the Gloyd comes about 110 feet below the Hill. The Dees and Young sands are oil producers at Rodessa. The Dees is found about 100 to 150 feet beneath the Gloyd, and the Young, or lower oolitic zone, comes in just beneath the Dees. Elevations in the field range from about 190 to 300 feet, derrick floor.

Many Areas Have Possibilities

Other areas which offer excellent Glen Rose and Lower Trinity prospects for oil on known structures are the Sugar Creek gas field, Claiborne Parish, where United Gas Public Service Company et al are drilling a deep test; Cotton Valley, Webster Parish, where Ohio Oil Company is drilling a deep test, and Sligo, previously mentioned as having recently furnished a new deeper Glen Rose producing horizon. A total of nine fields in this area are now producing oil or gas from the Glen Rose oolitic beds and quartz sands. In addition to those already named we have Pine Island, in Caddo Parish; Bethany, in Panola County, Texas; Bellevue, in Bossier Parish and Richland, in Richland Parish.

There is a general wide-spread search for structures whereon the Glen Rose can be had and wildcat activities are almost all planning to continue down to test that formation. This activity leads to the question of what else is offered in the way of deeper production. The answer is that in addition to localized structures which will be tested in the near future, there are three shoreline possibilities, one of which is so particularly attractive, especially for Lower Trinity possibilities, that it justifies discussion.

The first two of these shoreline possibilities are to be found off the north and south flanks of the Northeast Louisiana, or Monroe, uplift which, on its north flank, offers a number of possible producing horizons from the Midway, into which the basement uplift penetrates, down possibly to and including the Paleozoics, as one advances into the Arkansas syncline. This shoreline lies east-west across northern Ashley and Chicot Counties, Arkansas. To a lesser extent the southern flank is of interest from perhaps the Claiborne on down, however, drilling depths to the older formations might prove prohibitive. This shoreline also lies east-west, across Madison and Tensas Parishes, Louisiana.

First in importance, however, among shoreline possibilities is the well known but little discussed major structural feature of a south-facing basement scarp centering in Hempstead County, Arkansas. Let us start at Rodessa and work our way up to this area to see just why it is favorable not only for production in the Rodessa Glen Rose zone but also in the thick Trinity quartz sands underlying it.

Production in the Rodessa field is obtained from the Glen Rose formation, middle member of the

Trinity Series in the Comanchean System (Lower Cretaceous). This gas and oil pay comes from drilling depths of 5500 to 6050 feet; from Rodessa the Glen Rose rises to the north for a distance of about 90 miles and there comes to the surface as an east-west outcrop in the DeQueen-Murfreesboro region of Arkansas. (See Index Map).

However this generalized picture is only approximately true; there are two structural features, of regional magnitude, to be considered, viz: 1. There is a regional syncline just north of Rodessa which constitutes the north end of the Sabine Uplift. This syncline is better described as a saddle. To the west and southwest from this saddle the beds plunge off gradually into the Tyler Basin; to the east of this saddle they flatten out into a broad terrace across southern LaFayette and Columbia Counties, Arkansas, with but gentle east dip. Had the Rodessa field been a few miles farther north it would have been exactly in the bottom of this syncline or saddle.

Thus, the beds at Rodessa continue dipping to the north for a few miles and then start rising to the outcrops. This means that the Glen Rose, say, in the southwest corner of Arkansas, lies more than 6000 feet deep, and from that point rises to daylight near DeQueen. This fact, however, has no direct bearing on the possibilities of a major shoreline structure to be discussed, other than to show the total amount of drop of the Glen Rose from its outcrops to Louisiana.

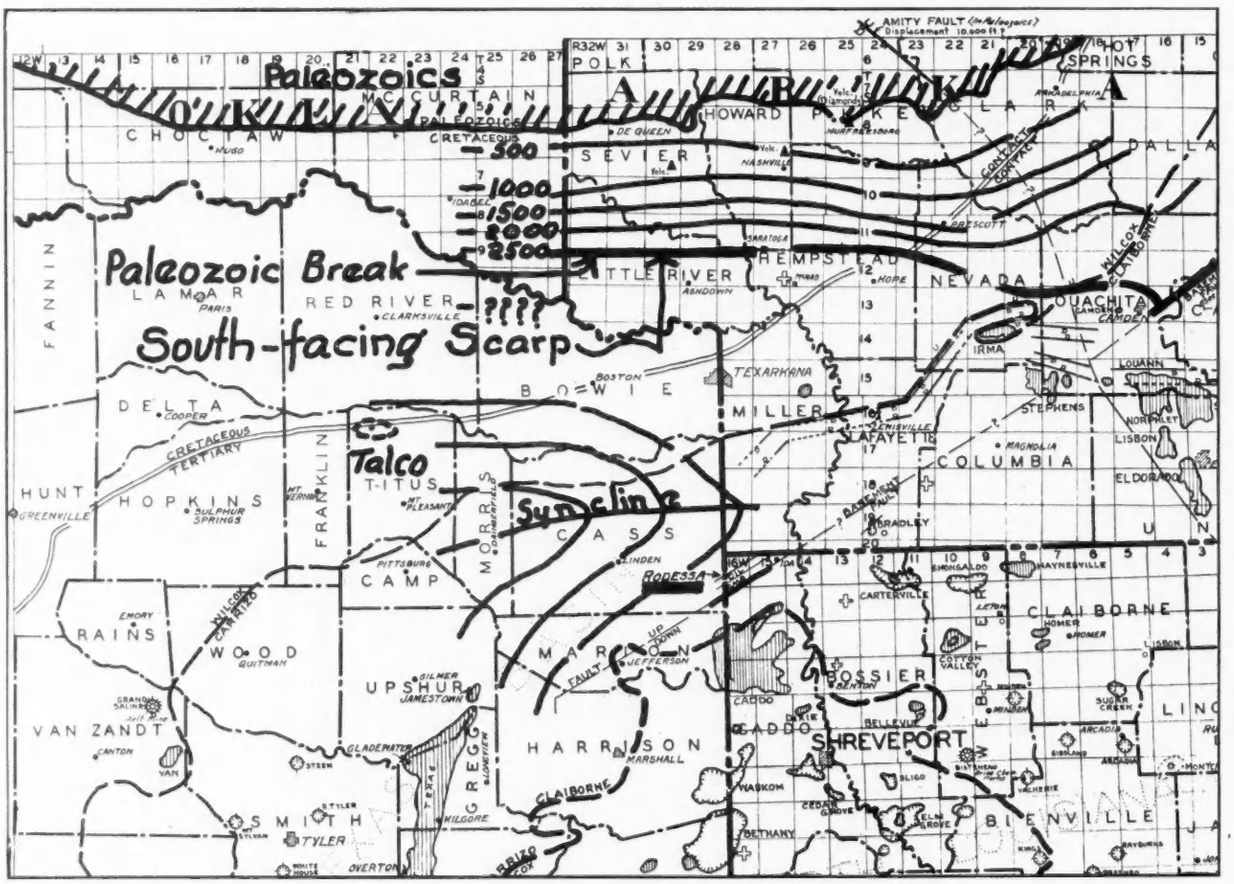
2. A basement (Paleozoic) fault lies east-west through Hempstead County, Arkansas, in the vicinity of McNab, and this abrupt break is of much importance in connection with any local structure and has great bearing on the possibilities of production. On the Index Map this fault is shown, also contouring on the basement (Paleozoic) floor from the DeQueen-Murfreesboro area to the fault; south of this fault the depth to the floor has not been determined.

It is highly probable that some faulting overlies this basement break and is present in the Lower Trinity beds. The folding and faulting in the Trinity beds, superimposed on this Paleozoic or basement fault, would provide adequate trapping for commercial oil and gas and would allow oil and gas to come from the Paleozoics directly into the Trinity beds and be concentrated therein. Regarding the idea of the Paleozoics being source sediments in the area we find the following statement by Ver Wiebe,[1]. "The source of oil and gas in this district (Sabine-Ouachita uplifts) is not known, but some geologists believe that it has a very deep source, namely, the Paleozoic sediments which may underlie the Comanchean. One reason for this belief is the occurrence of so many asphalt deposits along the outcrop of the Trinity formation in southern Arkansas." For further information on these asphalt deposits see U. S. G. S. Bulletin 691, Page 271, "Asphalt Deposits and Oil Conditions in Southwestern Arkansas."

Proof of the presence of this basement fault is had through logs of wells drilled over the area south of the Glen Rose outcrops. These sub-surface records show the basement floor to be dipping southward from its outcrops in a uniform manner (50 to 75 feet per mile) until it reaches a sub-sea depth of about

[1]Walter A. Ver Wiebe, "Oil Fields in the United States", 1930.

Northwest Louisiana, Northeast Texas, Southwest Arkansas and Southeast Oklahoma Index Map



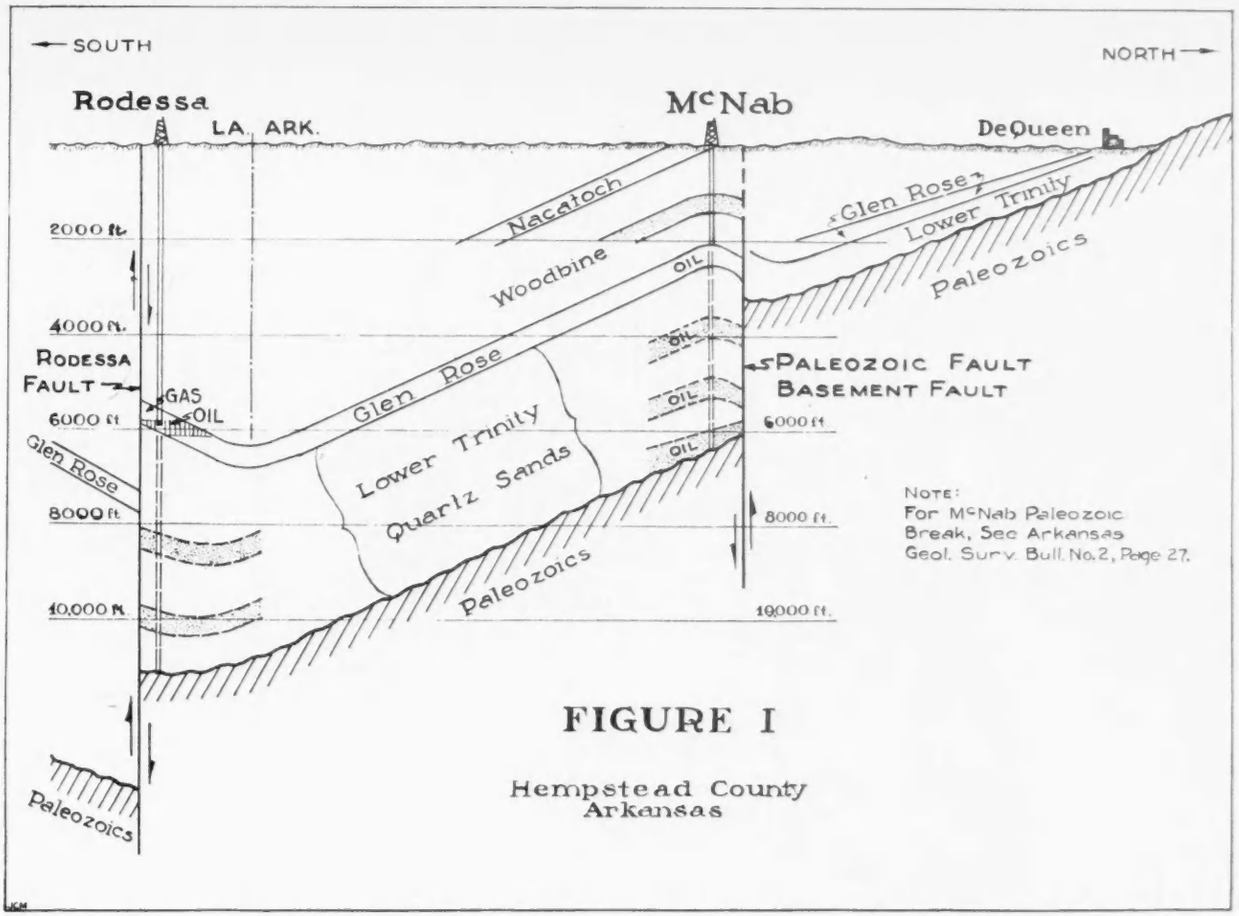


FIGURE I

Hempstead County
Arkansas

2500 feet at Saratoga, as shown in the contouring on Index Map. But south of Saratoga the Paleozoics have dropped off so aburptly that wells several hundreds of feet deeper failed to go entirely through the Trinity.

Regarding this abrupt drop of the Paleozoic floor in Hempstead County, Arkansas, I quote W. C. Spooner[2]. as follows:

"An abrupt change in the rate of inclination of the basement floor along a line drawn from southern Little River County—is indicated by the record of deep wells. To the north of this line, the basement floor lies at depths ranging from sea level to 2500 feet below sea level; to the south, wells drilled hundreds of feet deeper failed to reach the base of the Lower Cretaceous. The abrupt change in the rate of inclination of the basement floor. . .

" . . . may be due in part to the sharp flexing and in part to faulting, but on the whole the evidence is insufficient to determine definitely the causes. The flexure is in large part the result of movement at the end of the Comanche epoch, but the oldest known Cretaceous sediments (Neocomian?) do not extend north of the flexure, and the Travis Peak formation decreases in thickness over the flexure, suggesting that the initial movement occurred in the earliest Cretaceous time. The flexure may represent an older line of weakness, developed incidental to the uplift of the Ouachita Mountains with the recurrence of movement concomitant with the downwarping and submergence of the Ouachita peneplain, which initiated the Cretaceous sedimentary cycle of the region."

The sketch, Figure I, gives a better understanding of probable regional conditions. This sketch uses the same vertical scale both for Rodessa and McNab, and a true north-south relationship of Rodessa, McNab (Hempstead County) and the outcrops at DeQueen-Murfreesboro—otherwise it is not to scale.

In examining this sketch, bear in mind that to its south the beds rise until they reach the high part of the Sabine Uplift. In other words, at the region of Rodessa the normal dip of the beds is to the north, and this north dip continues to its lowest point near the southwest corner of Arkansas.

From this low point (syncline), located a few miles north of Rodessa, the beds rise to the north and continue rising until the surface is reached; the Glen Rose comes to the surface near DeQueen-Murfreesboro. In other words McNab lies in a region where the normal dip is to the south. The regional syncline (or saddle) is shown on the sketch near the state line between Arkansas and Louisiana.

Figure 2 shows the basement (Paleozoic) break which is known to exist just north of McNab. It is not known how much of a break is present in the Paleozoics but in Figure 1, I have given it as more than 2000 feet. Since its downthrow is on its south (down-dip) side the break will tend to create an anticlinal fold as shown.

While there has been but little deeper drilling in this area and conditions remain unknown in the Lower Trinity, it is fairly well established there are present excellent bodies of true quartz sand. On the outcrops good bodies of Lower Cretaceous sand are

[2]Arkansas Geological Survey Bulletin No. 2, Page 27.

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in LESS TIME

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showing. Also, to the south of the Paleozoic break, drilling has established the presence of a much greater thickness of Lower Cretaceous than that showing on the outcrops; hidden beds of sand may be expected. These deeper sands would end against the Paleozoic break and present true shoreline traps for oil and gas. It seems certain that this Paleozoic break happened prior to Cretaceous time and left a high east-west cliff or bank as the north boundary (shoreline) in this part of Arkansas, against which cliff sands were deposited and fully trapped; oil accumulations in such sands could not migrate on northward.

The regional conditions in this area are of unusual nature and of great economic possibility. Figure 2 shows conditions as they would be were there no actual faulting but merely a steep bank in the Paleozoics, a condition which provides true shorelines for the deeper sands and is a structural feature of great importance with possibilities even greater than the East Texas field. As stated before, this structural trap as pictured by Figure 2 is a recognized fact and one which would lead to recommendations to prospect the area thoroughly even though there were no surface evidences of structures or oil shows known, and good oil showings have been encountered in shallow wells in the area, in addition to asphalt deposits, farther north, mentioned by Ver Wiebe. One could hardly overstate the importance of this break as forming a great oil trap across this part of Arkansas.

Increase in interest and operations in the North Louisiana-Arkansas area has been tremendous since the discovery of oil at Rodessa and much has been written about the potentialities of Trinity sands. Further impetus to the exploratory movement will no doubt be given by the activity in Titus County, Texas. Considering that this discussed portion of Arkansas is known to be oil bearing, that an important major structural feature is well established, and that the true quartz sands of the Trinity can be prospected within drilling depths of 5000 feet or less, meaning more economical exploration as compared with proposed and contemplated Trinity tests at depths around 7000 feet, it will not be at all surprising to have the next major oil field of the United States found in Arkansas, not far from East Texas itself, and a true shoreline field.

The anhydrite series of the Glen Rose thins from its maximum thickness of about 750 feet in Rodessa and is exhibited on the outcrops near Murfreesboro, Arkansas, by "Plaster Mines". A well drilled in central Sevier County, Arkansas, found the anhydrite zone to consist of but 74 feet of anhydrite and gypsum. At McNab, and in the neighborhood of the Paleozoic break, the anhydrite zone is less than 200 feet thick and has relatively little true anhydrite present.

Whereas seismograph shooting in search of the Glen Rose in North Louisiana, expressing structures as anhydrite "highs", is done on the anhydrite, this shoreline of Southwestern Arkansas would need be shot on the Paleozoics as the basement floor, thereby determining the position, amount and abruptness of the scarp.

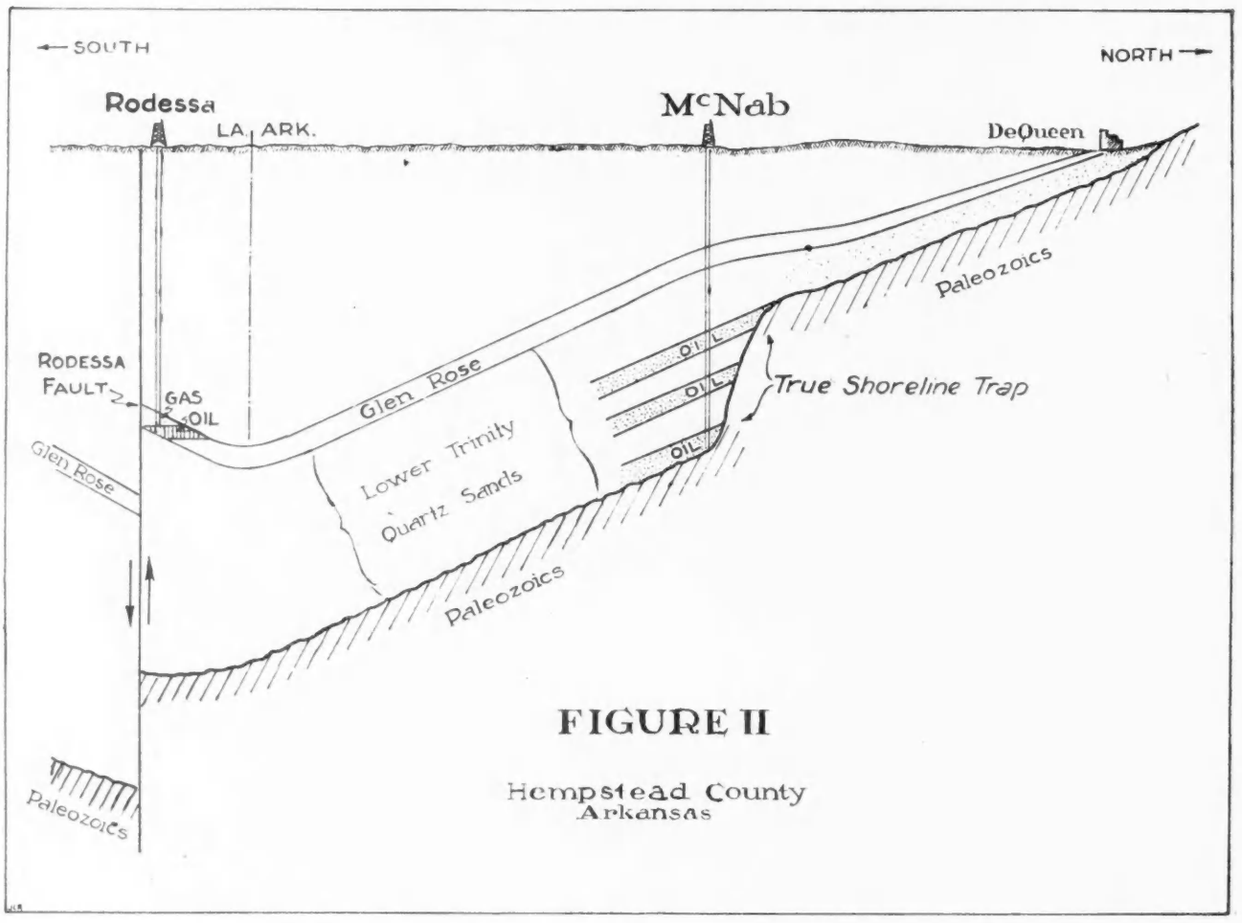


FIGURE II

Hempstead County
Arkansas

Preventing Frozen Lines

SOME INTERESTING METHODS USED IN KEEPING GAS GATHERING LINES OPEN

By W. C. LANE, Electrical Engineer

IN many oil fields that have reached the stripper stage, a prolonged period of freezing weather frequently results in a noticeable decline in the supply of gas due to frozen gathering lines. The approach of a cold wave is the signal for employees of the gas department to take measures to keep the lines open. Unless this is done considerable inconvenience is likely to be experienced, and the output of gasoline plants will be curtailed materially.

One authority states that at 60 degrees natural gas can carry 100 gallons of water per million cubic feet and at 70 degrees 160 gallons per million. In a depleted field where the pressure at the casing head is low, the movement of the gas through the gathering lines is slow and there is likely to be an accumulation of water in the low places. If this water is not removed at some point near the well head or heaters installed at the danger points, trouble is likely to ensue.

An Interesting Method

One company, which has a very extensive system of gathering lines in a depleted field, has developed a very interesting system to combat frozen lines. During open weather workmen are sent over the lines likely to be affected with a drill, a set of taps and a can of white paint. Holes are drilled and tapped in the top of the lines every hundred feet or so. These are then plugged and a small area about each hole is painted white, so that the plugs may be located without difficulty. When a cold wave arrives men are assigned to certain areas to keep the lines from the wells to the main gathering lines open.

Each patrolman is given a coil of small hose of sufficient length to reach from one plug to another. One end of the hose is equipped with a nipple of the same diameter as the tapped holes and the other with a tube torch. When a frozen line is encountered, the obstruction is located by removing some of the plugs and testing for gas pressure. The nipple is then screwed into the hole nearest the obstruction, the torch lighted and heat applied to the affected section.

This method is very satisfactory where lines are run on the surface and the pipes are accessible. Doubtless, there would be less trouble if the pipes were buried below the frost line, but this is an expensive thing to do and in many cases the cost would be prohibitive. The chief difficulty encountered is at road crossings and at similar places where the lines are buried for only short distances. Digging up a line covered with frozen earth is a pick and shovel job and it requires too much time to be used except as a last resort.

Use of Electrical Current

The writer carried on some very interesting thawing experiments several years ago, in which an electric current was used to open the lines. The location of the wells on the lease, the electric sub-station and the gas lines are shown on the accompanying sketch. The main four-inch gathering line terminated at approximately the center of a 40-acre lease. The two 2-inch lead lines thawed serving the wells, designated as No. 1 and No. 2, were located on the highest section of the tract. It was necessary for the lines to make a dip in order to pass under a road. In order to make sure that the lines would be thoroughly plugged, water was poured into them the day before the test was made and allowed to settle and freeze in the low places.

The capacity of the sub station used to pump the lease was 150 KVA and power was distributed at 480 volts. Two 25 KVA 440/220/110-volt transformers were used to step the voltage down so that the current would not be excessive. On the first test the secondaries of the two transformers were connected in parallel and 220 volts applied to the terminals of the line leading from Well No. 1. Before closing the switch the pipe was disconnected from the four-inch main, but the well end could not be disconnected as the gas of the well was needed to empty the line after it was thawed. A current of 336 amperes was sent through the circuit for 45 minutes but this appeared to be inadequate to heat the line enough to remove the obstruction.

As a matter of fact there was no way to tell how much current was flowing through the pipe itself and how much was being detoured by the earth and crisscrossing pipe lines. The cables were transferred to points "a" and "b" on each side of the roadway and the secondary voltage changed to 110.

Opened Line in Fifteen Minutes

A current of 425 amperes opened the line in about 15 minutes. It should be noted that heating varies as the square of the current so the change amounted to increasing the heat, at least 60 percent. The actual increase may have been much greater than this as

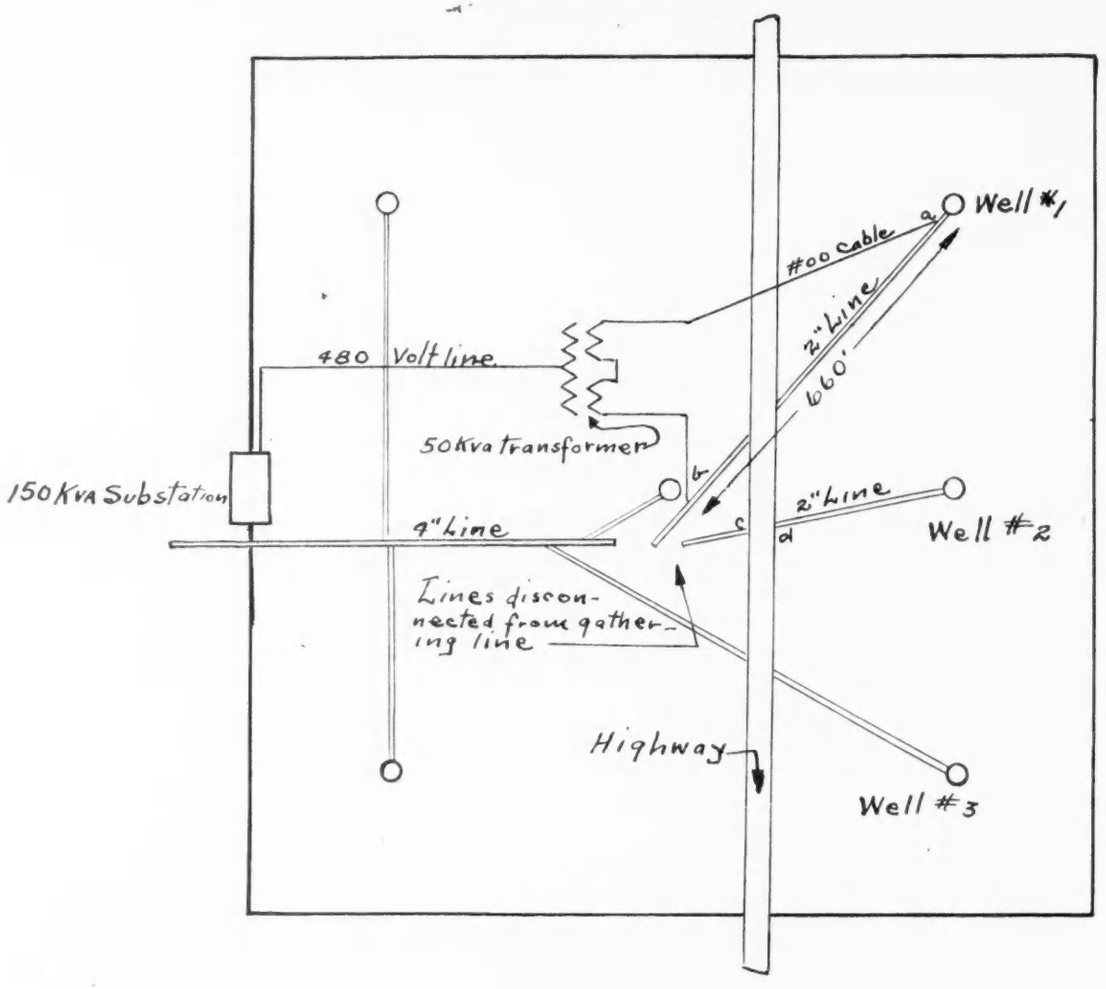
the line was short and less current would be detoured. The cables were then transferred to the lead line serving Well No. 2, and a current of 460 amperes sent through the short section "c-d" passing under the roadway. At the end of seven minutes ice billets about 12 inches long were projected from the open end of the pipe by the gas pressure from the casinghead.

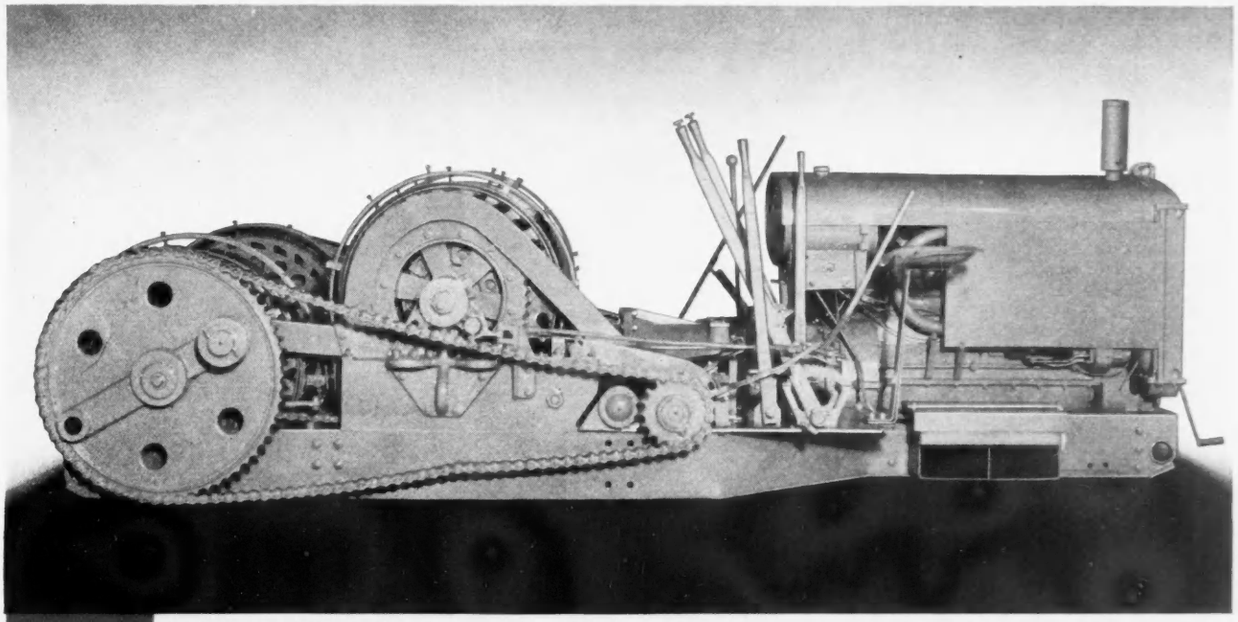
Portable Transfer Suitable

These tests and others of a like nature indicate that a current of from 400 to 500 amperes should be sent through a two-inch line in order to thaw it out effectively. It does not appear to be feasible to attempt to thaw long sections of buried or partially buried pipe especially where one end is grounded solidly at the well. The current in a circuit divides inversely as the obstruction offered by the possible paths. During one test a pumper disconnected a water line at a boiler house several hundred feet at right angles to the line being heated and a bright arc was made showing that not a little of the current was far afield.

Where a company has its own power plant and does not have to think about the demand charges for electrical energy, a transformer of suitable capacity mounted on a trailer will be of much value in thawing short lines. The wiring should include a circuit breaker and a set of connectors by which the primary leads may be connected to a power line with a "hot stick". When alternating current power is not available on a lease, a direct-curent generator driven by an old automobile engine will be found to be a good substitute. There is just one thing to remember when using electrical energy in the manner described. Before closing any circuit see that all cables are clamped to the pipes firmly and close and open the circuit with an oil circuit breaker if oil, gas, or other highly inflammable materials are present. The fire hazard is really very small if reasonable precautions are used.

Sketch showing gathering lines on 40-acre lease and points at which cables were attached in thawing on line by electircal current.





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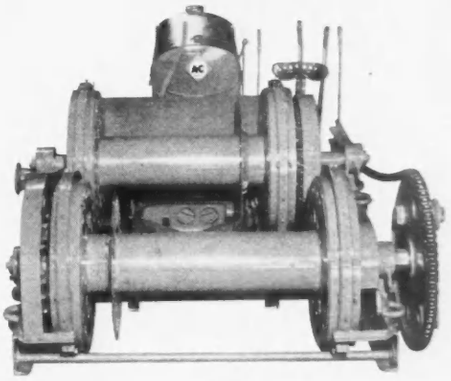

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Gas Rig Fuel Economy

SCRUBBING AND PRESSURE REDUCTION UNIT IS PROVING ITSELF WORTHY

By JOHN C. ALBRIGHT

JOHN NUNNELEE, drilling contractor of Cushing, Oklahoma, has a portable gas engine-driven drilling rig that has made over 9000 feet of hole without even the need of a spark plug cleaning. To accomplish this record, even when good equipment is used, the pressure of the gas must be reduced sufficiently so it can be drawn into the engine cylinders through the carburetors at a very low pressure. The gas delivered to drilling wells on the lease being developed has about 450 pounds pipe line pressure, so a reduction unit was designed by Nunnelee to lower this pressure, and to scrub all foreign matter from the fuel at the same time. The Nunnelee rig was described in THE OIL WEEKLY, February 10, 1936.

The unit is rigid enough to permit trucking over the country from one location to another, and serves to scrub the gas three times before it is carried to the gas engines driving the drilling rig. Gas may also be taken from the unit and reduced through an additional valve to be used in a portable electric generating unit that provides lights for the rig. Skid runners provide ease in handling.

When placed in position for use, the gas scrubbing and reduction unit is mounted upon a substructure built beside the rig. Because of its weight, it can be operated without anchoring it to the sills upon which it rests. The unit is relatively inexpensive, and affords a real saving in fuel costs. In drilling a well to 2924 feet, where 8¼-inch casing was set, 838,000 cubic feet of gas passed through the reduction unit without as much as cleaning a spark plug on either of the two 125-horsepower gas engines.

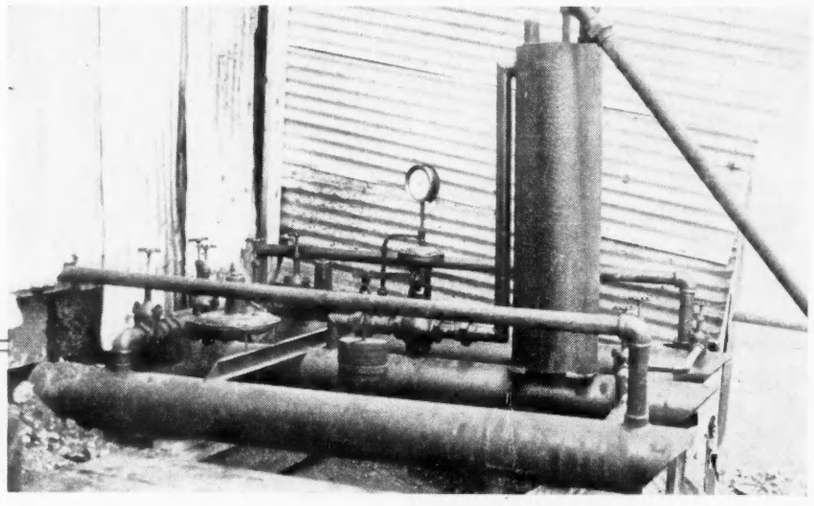
The reduction and scrubbing unit consists of four chambers, one being vertical and three in horizontal positions, and several reduction valves. All piping connections are two inches in diameter.

The gas first enters the vertical chamber, which is made of a piece of 10-inch casing with flat heads welded in both ends. The bottom end has no connections, while the upper end has four pipe connections; one through which the gas enters the chambers, another for the outlet, one for venting the pressure when changes are to be made, and an inspection opening. The latter is closed with a two-inch bull plug. All the connections are made to the top of the vertical chamber, except the outlet pipe, which is several inches below the top. Through this outlet passes the gas when flowing to the first reduction unit.

The horizontal chambers are made of six-inch pipe, each about eight feet in length, and closed at both ends by welding a flat head to the pipe. One end is also beveled to provide ease in handling. These horizontal chambers are placed about three feet apart, and are held steady by a piece of pipe welded from one to the other, and by another bar traversing across the entire unit.

The gas, scrubbed in the vertical chamber before it is reduced in pressure, leaves through the two-inch outlet pipe and passes to the first reduction valve, which is a diaphragm head, iron-body instrument designed to lower the pressure from 500 pounds to about 25 pounds. The gas then enters the center one of the three horizontal chambers, which acts as a secondary scrubber and volume container.

A two-inch connection is welded to the flat head end of this chamber in such fashion as to permit the gas to leave in two directions. This is accomplished by using a pipe line collar, with a short nipple to which a tee is connected. Each of the two outside horizontal chambers are connected through this fitting by using two-inch pipe and two low-pressure reducing valves. Two-inch gate valves are located between the opening in the center chamber and each low-pressure reducing valve, so that either of the outside horizontal chambers may be cut out of service without disturbing the operation of the entire unit. The gas flows through to the opposite end of the two outside horizontal chambers, and then is carried to the drilling engines.



Gas pressure reduction and scrubbing device being used by John Nunnelee on gas engine driven rotary rig.

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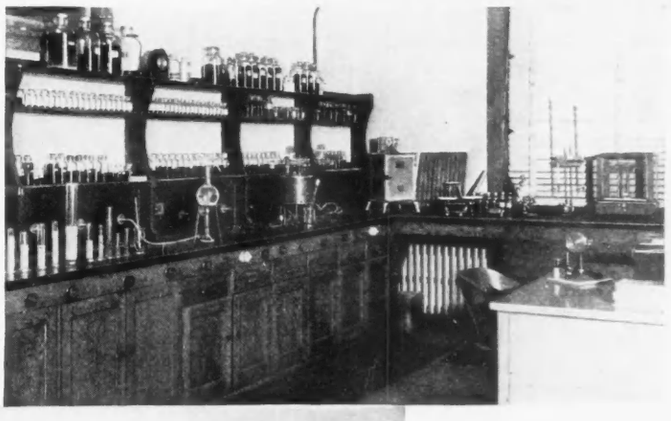

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Producing Zone Selection Important

GAS/OIL RATIOS AND WATER CAN BE CONTROLLED BY PROPER COMPLETION

By EARL S. POST, Staff Writer

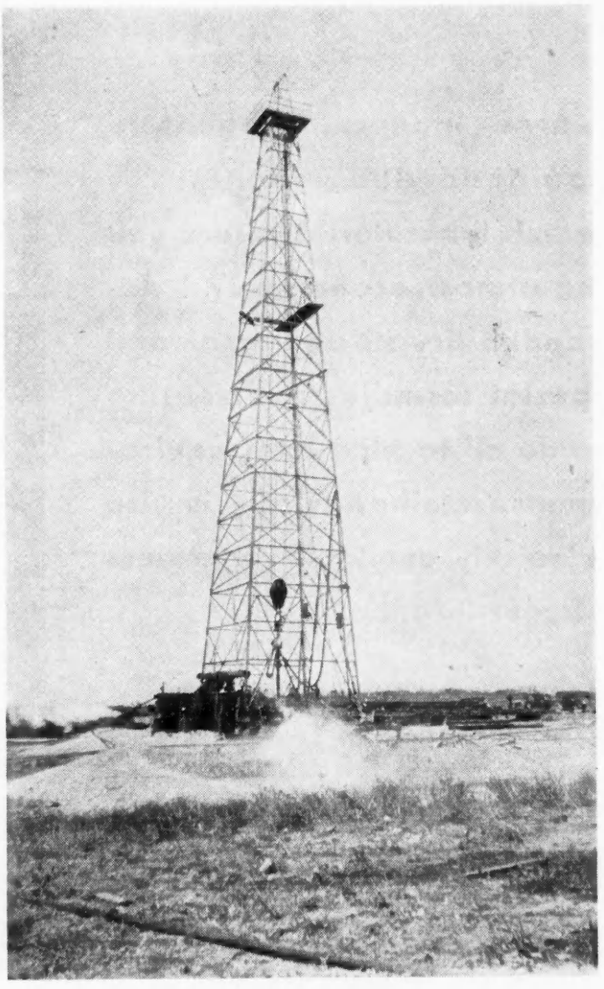
PROPER selection of the best producing area of the sand in completing wells is an important consideration, especially in the Gulf Coast and South Texas districts, where the relation of gas, oil and water is so close in many instances that one regulation location finds the gas/oil ratio problem changed into an oil/water problem. To overcome this situation, operators in the regions are paying greater attention to the selectivity of the producing sector. Gas/oil ratios may be controlled by taking in only that part of the sand capable of producing oil and excluding the remainder of the formation. Likewise, other production problems, such as water, can be cured or reduced materially through improved methods in sand selectivity.

In using such methods, operators in the territories mentioned are generally drilling their wells to the desired depth so as to study all the sections. Naturally, coring and testing are important parts of this work. Casing is usually run and cemented on bottom, after which the gun perforator is used to open the right producing section. It is possible by using this procedure to study the full sand section, and then properly select the best portion. Moreover, it enables the operator to plug back to upper producing sections, if they appear better than the lower one.

Oil/Gas Ratio Control Important

Samfordyce field, Hidalgo and Starr counties, is an excellent example of gas/oil ratio control. In the early days of the field, the type of structure and production conditions were almost completely unknown. Several wells drilled immediately after the completion of the discovery well came in as gassers, making the field look rather weak as an important oil area. Further work, however, revealed a rather sharp structure with a quick drop from the gas zone, across the oil zone into the salt water level. In addition, a heavy gas cap overlaid most of the field, being broken in some cases by a lens of shale, but in others merging into the oil zone.

The field since has seen the completion of approximately 125 flowing oil wells, most of them being completed through the use of gun perforating equipment. This has been accomplished through solid coring of the entire section from above the producing horizon to the total depth. When saturation is cored, the hole is reamed to just above the core and



A typical drilling rig used in the deeper South Texas and Gulf Coast districts, where operators are learning much about well completion methods.

FIGURE 1

System of gun perforating after running casing to bottom of the well.

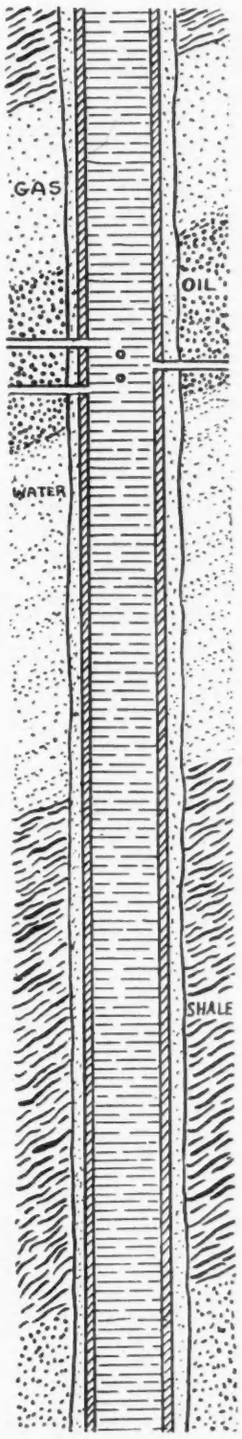
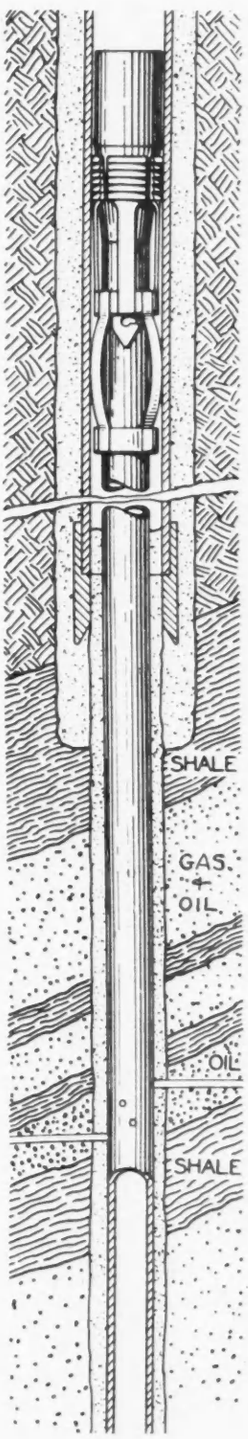


FIGURE 2

A liner has been run to bottom and gun perforated at the desired point in this well.



a drill stem test made. If the show is satisfactory, the hole generally is carried a little deeper, sometimes through the entire sand section into shale. Continued coring and testing is done until a quantity of fluid is recovered and which is sufficiently in proportion to the pressure to suggest a normal producer. The next step is to set casing to bottom and cement through the entire producing section. The gun perforator is run into the hole and the casing shot with as many holes as is deemed necessary to allow the proper flow of oil, as shown in Figure 1.

In gun perforating to overcome gas/oil ratio, it is not infrequent that the area shot is several inches in width. This is done to take in the portion of the horizon that shows the greatest amount of oil with the least amount of gas. The gas ratio in such cases is so effectively reduced that the well will show lots of fluid, but will show insufficient gas to allow it to flow. This obstacle, of course, is overcome by another shot just above the preceding show to let in the gas flow.

As a double precaution, an electric formation tester is run into the hole to obtain a log to check against the coring and drill stem testing. This test gives a rather accurate gauge of porosity and resistivity, hence errors in selecting the most desirable shooting point is reduced to a minimum.

Wells taking the thin section of the horizon showing a high oil and low gas content frequently go dead after a few months of flowing due to dissipation of the gas. This happened in several wells in the Samfordyce field, but their workovers brought to light some very interesting information. As soon as the perforations were made just a little higher in the casing, they were recompleted for excellent flowing wells. The result obviously is that the gas pressure is retained in the reservoir and is withdrawn only in a quantity necessary to lift the oil. This practice apparently will materially increase the flowing life of the wells in addition to increasing ultimate recovery.

The reverse on this practice worked in the case of wells going to salt water. The holes made by the perforator were cemented closed. The cement drilled out and new holes perforated higher in the formation above the water level.

In the Plymouth field of San Patricio County gas/oil ratios have been a problem, and gun perforating has been used with excellent results. As the field has been drilled, the thick gas cap has been well defined. In some cases, the casing has been set through the gas into the oil sand, but in other cases, due to the unfirm sand, failure of a casing seat or the such, such practice of casing off the upper gas has not been too practical. In these cases, the pipe has been run to total depth for perforation.

In several instances, casing was set to the sand, but the tremendous flow of gas prevented proper completion. A liner was then run to total depth, cemented and gun perforated at the desired point, as shown in Figure 2.

One of the Plymouth field's largest producers in the 5600-foot sand was completed through the use of gun perforator. Having drilled through the whole horizon into the water, casing was set on bottom and a thin sector just above the water was shot. The result was more or less a squeeze of the salt water on the lower side and the down drive of the gas. After many months of production, this well has been showing only a slight cut of salt water, its

FIGURE 3

A squeeze cementing job used where the casing was set through the entire oil section to bottom and later perforated.

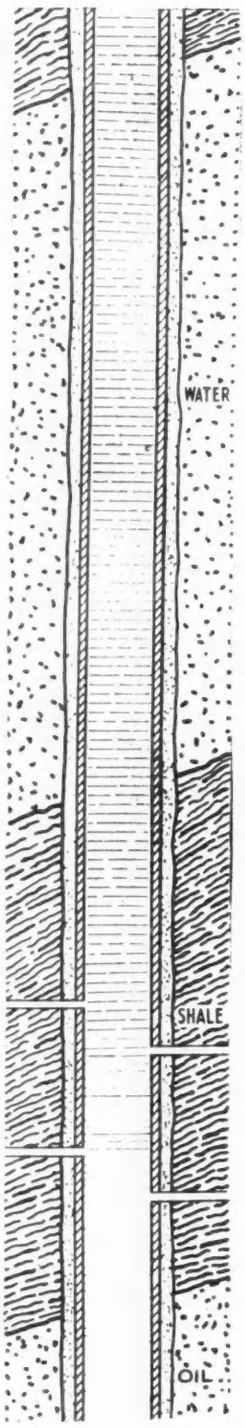
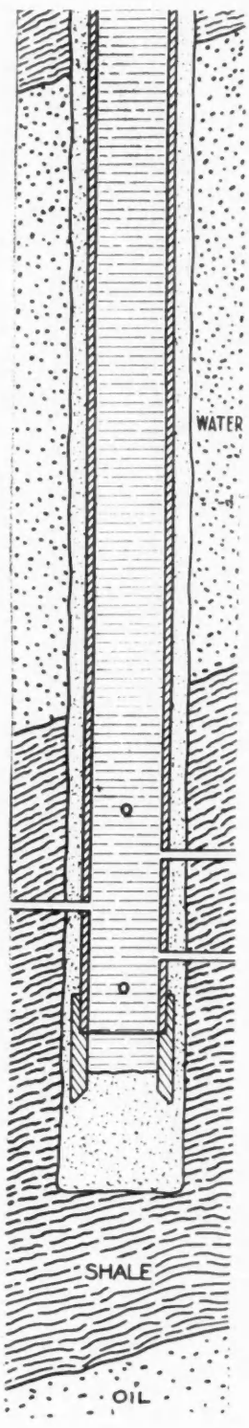


FIGURE 4

A cement job similar to Figure 1, but the casing has been set above the producing zone.



pressure and gas/oil ratio being regulated by the use of chokes.

Saxet field, Nueces County, was more or less shelved several years ago when a few tests on the top of the structure developed salt water, despite excellent showings on drill stem tests. It was later found that two sands, in most cases broken by thin shale lens, made up the 4800-foot zone. The upper sand carries water, while the lower is an oil horizon. In other portions of the field, the upper sand also produces oil. The common practice of setting atop the sand proved the undoing of this field in as much as the flow of salt water came in on production test instead of the oil.

New drilling in the Saxet field has in many cases been done through running casing through the entire zone and perforating the oil section. In several cases, the squeeze job of cementing was resorted to, casing being perforated between the two sands, similar to Figure 3, to allow a more adequate cement job. A similar cementing job is shown in Figure 4, although the casing is set above the oil sand.

Saxet Heights (Corpus Christi) field, Nueces County, is another example of tremendous gas flow in which gun perforating has been used in an effort to control the fluid and pressure. This field is operated very similar to Samfordyce due to the close relationship of their production problems.

Water Can Be Controlled Also

West Tuleta field in Bee County developed a 3000-foot Jackson age producing sand while drilling was headed to the 3900-foot Cockfield production. Most of the tests cored this level, some just logged it on the drilling records and others ran electric formation testing devices. The records, however, are sufficiently accurate that correlations may be had of this sand. Now, many of the wells on the flank side of the field are going to water and are being plugged back to the 3000-foot level, where holes are being perforated in the casing. The wells are not large, but the expense of perforating is more than overcome by the recovery possible. A complete production set-up is available in practically every instance, making the rework job inexpensive.

The above plan has been carried on in Refugio field, Refugio County, several years with most profitable results.

A custom followed in numerous wells along the Gulf Coast trend at this time is to drill through the several producing horizons in the field, then plug back to the better level. While this apparently is an unnecessary expense, much logic is evidenced in the explanation. In one field, for instance, there are a series of five sands between 4000 and 5000 feet carrying oil and gas. Sand conditions vary in the field, making each well a more or less unknown quantity in each sand. Upon coring and testing the several sands, it is determined whether multi-wells on a particular location are practical. Likewise, if a sand at 4800 feet is considered adequate, it is possible to complete at this level and later plug back for completion in upper sands which had not shown so heavily.

The above practice has been made much simpler through the use of perforating equipment. The wells are drilled to the desired depth, but plugged back to just below the sand expected to be produced from. Casing is set on bottom and perforated just above that level.

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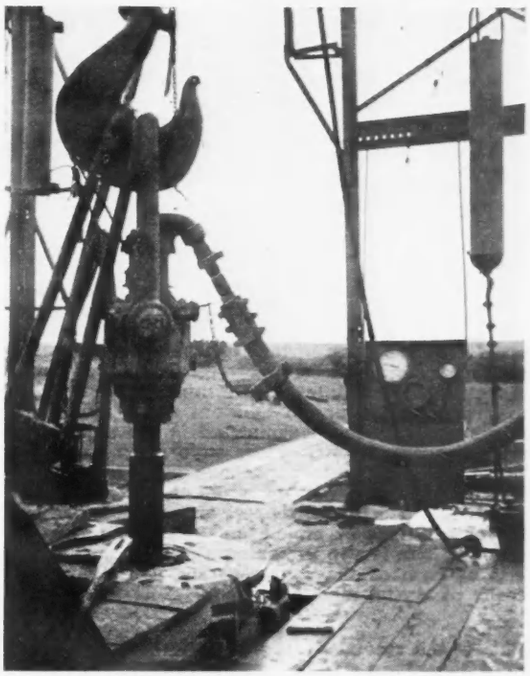

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VISCOSITY OF HYDROCARBON SOLUTIONS

Solutions of Ethane and nButane in Crystal Oil

By B. H. SAGE, J. E. SHERBORNE, and W. N. LACEY
California Institute of Technology, Pasadena, California

A MARKED decrease in viscosity occurs when hydrocarbon gases are dissolved in petroleum oils. These changes are important factors in the recovery of crude petroleum from underground pools. Studies are being made by Research Project 37 of the American Petroleum Institute to determine the extent of such changes for saturated solutions under conditions corresponding to those encountered in the field. In a previous paper[3] viscosity values were given for solutions of methane and of propane in a water-white refined fraction of Western crude stock known as "crystal oil." The present paper presents similar results for solutions of ethane and of *n*butane in the same oil. There is also presented a comparison of the effects of each of the four separate gases upon the viscosity of crystal oil.

This is the second of a group of three papers, a part of the report of the American Petroleum Institute's Advisory Committee on Fundamental Research on Occurrence and Recovery of Petroleum and is reprinted from the Institute's Production Bulletin No. 216, Los Angeles Meeting, November, 1935, which has just now been released for general publication. The third paper: "Viscosity of Hydrocarbon Solutions. Solutions of Four Hydrocarbon Gases in a Crude Oil," will be published in a subsequent issue.

THE crystal oil was the same material that was used in earlier studies,[2, 4, 5] and its analysis and physical properties have been previously given.[2] It was characterized by low volatility, moderately high viscosity, and an average molecular weight of about 337.

The ethane used was obtained by purification of a crude material containing approximately 90 mol percent ethane. This material was subjected to partial liquefaction in a regenerative cooling cycle similar to that used for production of liquid air. The condensed fraction was then vaporized, and the procedure repeated. The gas was next passed over activated charcoal at —80° F. (—62° C.) and at an absolute pressure of 50 mm. of mercury. The resulting gas was then condensed directly as solid in a steel trap, immersed in liquid air, under a pressure of less than 0.5 mm. of mercury. At intervals during the partial solidification, the pressure was reduced to less than 0.05 mm. of mercury to remove non-condensible gases. The solid was vaporized under pressure by raising the temperature of the steel trap. The resulting ethane gas contained less than 0.5 percent by volume of methane and nitrogen and a negligible amount of propane.

The sample of normal butane used in this study was obtained from Phillips Petroleum Company, whose special fractionation analysis showed the following composition: 99.21 mol percent *n*butane, 0.18 mol percent *iso*butane, and 0.61 mol percent *iso*pentane. Its apor pressures at dew point and bubble point were found to differ by 1.5 pounds per square inch at 190° F.

Apparatus and Method

The viscometer used in the determination of the viscosity of the saturated solutions was that described by Sage[1] without the density balance.[5] In principle, the viscometer consisted of a cylindrical inclined tube down which a closely-fitting ball was allowed to roll. The tube was filled with the saturated solution under carefully controlled conditions of temperature and equilibrium pressure. The required values for the density of the saturated solutions were obtained from measurements in other apparatus which will be published later. Temperatures were controlled within 0.02° F. The pressures were measured by means of a mercury-in-glass manometer up to values of 50 pounds per square inch, of a fluid-pressure scale with a sensitivity of 0.1 pound per square inch from 50 to 300 pounds per square inch, and of a fluid-pressure scale with a sensitivity of 1 pound per square inch at pressures higher than 300 pounds per square inch. Values given are in terms of absolute pressure.

After placing the sample of crystal oil in the viscometer system, the latter was evacuated to a pressure less than 1 mm. of mercury to remove air. The losses of crystal oil in this process were negligible, since its vapor pressure at room temperature was less than 0.01 mm. of mercury. Gas was added in successive quantities at constant temperature, gradually increasing the pressure throughout the range studied—equilibrium being established after each addition. Although gas space was present in the system at all times, the viscometer tube contained only the liquid phase. At the temperatures and compositions used in this study, the mixtures were always far enough removed from their critical states that the transfer of constituents of the crystal oil into the gas phase could be neglected without appreciable error.

Experimental Results

The viscosity of saturated solutions of ethane in crystal oil has been measured at five temperatures from 100° F. to 220° F. and for saturation pressures as high as 1,500 pounds per square inch. At each temperature the concentration of dissolved ethane

They Resist the Ravages of "SOUR CRUDE"

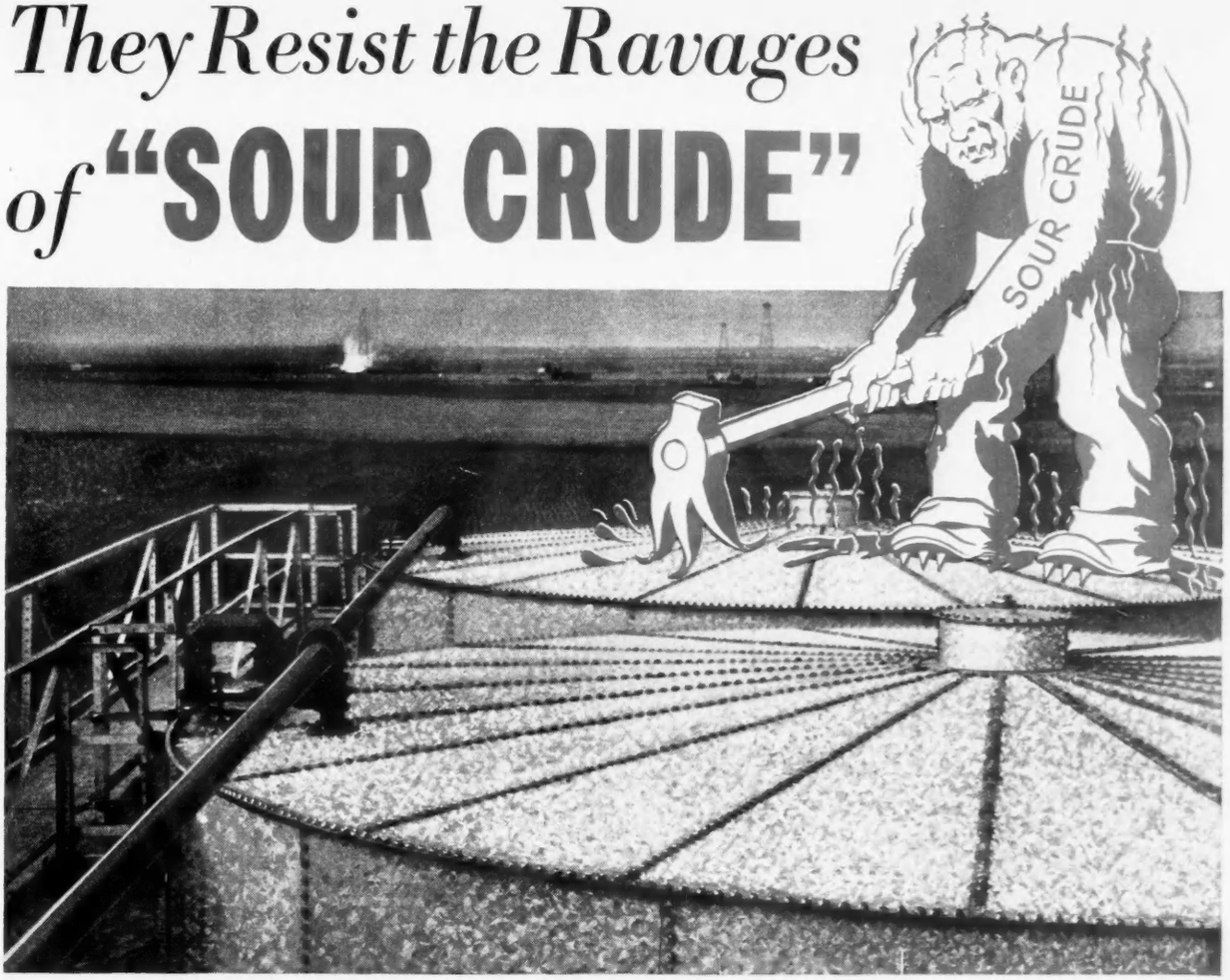

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TABLE 1
Viscosity of Saturated Ethane Solutions

Absolute Pressure (Lbs. per Sq. In.)	Absolute Viscosity in Millipoises				
	100° F.	130° F.	160° F.	190° F.	220° F.
0	283.8	137.6	79.8	47.4	32.4
100	176.5	83.3	54.0	37.6	28.2
200	74.3	55.0	38.4	29.6	24.2
300	41.5	37.0	29.3	24.2	21.0
400	25.2	26.4	22.8	19.9	18.0
500	16.0	19.1	18.1	16.6	15.7
600	10.2	14.0	14.4	14.0	13.7
800	(3.8)	7.8	9.4	10.1	10.6
1,000	....	(4.8)	(6.6)	8.0	8.8
1,250	....	....	(4.5)	(6.3)	7.3
1,500	....	....	(3.7)	(5.3)	(6.4)

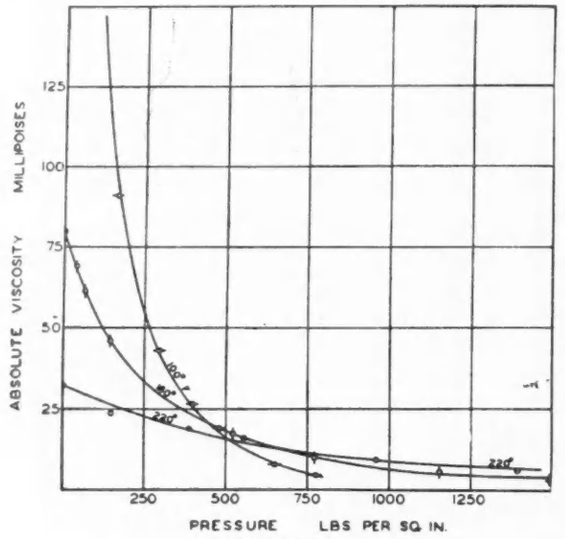

FIGURE 1
Representative Experimental Data for Ethane-Crystal Oil Solutions.

exceeded 20 mass percent for the highest saturation pressure. Some representative experimental results are shown in Figure 1, while Table 1 presents numerical values of the absolute viscosity for even values of saturation pressure. The upper curve of Figure 2 shows the effect of temperature upon the viscosity of crystal oil itself. The other curves of this figure give the viscosity values for solutions saturated with ethane at each of a series of pressures as functions of the temperature. As the temperature is increased, the ethane content of the saturated solutions decreases with a tendency toward increased viscosity; while, on the other hand, the viscosity of a solution of given ethane content would decrease with increasing temperature. These two opposing effects of increased temperature have differing relative magnitudes for differing saturation pressures. It will be seen in Figure 2 that at low pressures the net result of increased temperature is a marked decrease in viscosity, while for the highest pressures shown the net result is a small increase. It should be remembered that the composition of the solutions is changing as the temperature is changed. Sufficient phase-equilibrium data were not yet available to permit accurate presentation of the effect of tem-

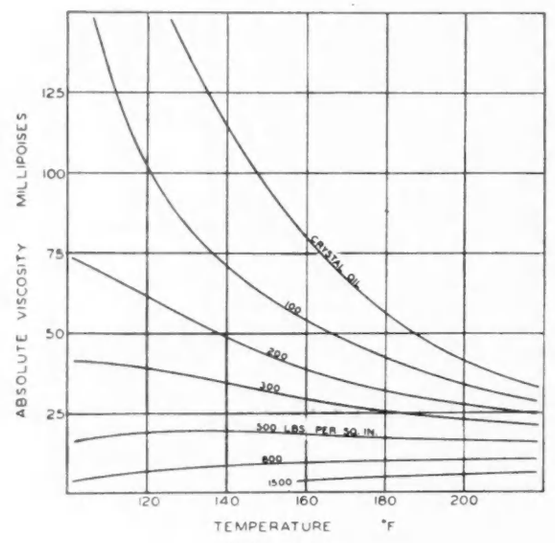

FIGURE 2
Relation of Viscosity of Crystal Oil and of Its Ethan Solutions, Saturated at Various Pressures to Temperature.

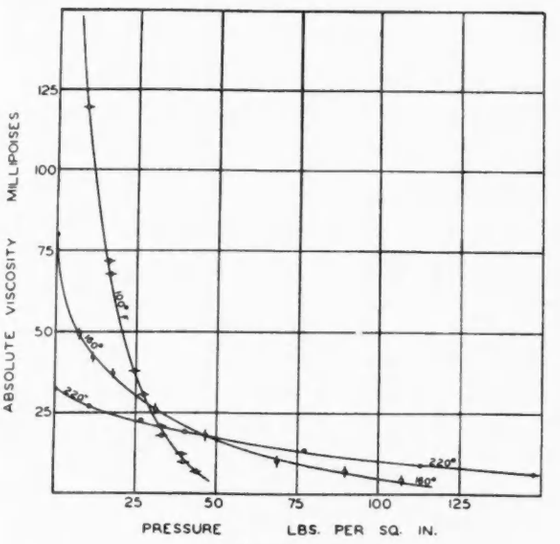

FIGURE 3
Representative Experimental Data for *n*Butane-Crystal Oil Solutions.

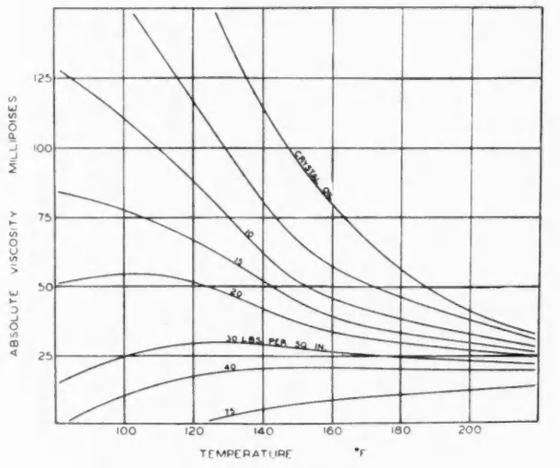

FIGURE 4
Relation of Viscosity of Solutions of *n*Butane in Crystal Oil to Temperature.

TABLE 2
Viscosity of Saturated *n*Butane Solutions

Absolute Pressure (Lbs. per Sq. In.)	Absolute Viscosity in Millipoises				
	100° F.	130° F.	160° F.	190° F.	220° F.
0	283.8	137.6	79.8	47.4	32.4
2	196.5	121.9	64.2	44.2	31.3
4	168.0	98.2	57.0	41.6	30.3
10	110.9	75.3	45.0	35.4	27.7
15	77.9	59.7	38.8	31.5	25.9
20	54.6	47.3	33.9	28.3	24.3
30	24.8	29.9	26.3	23.3	21.5
40	10.6	19.2	20.7	19.6	19.2
50	....	12.0	16.3	16.5	17.3
75	....	....	8.9	11.2	13.6
100	....	....	(4.6)	7.8	10.7
125	....	....	....	(5.3)	8.3
150	....	....	....	....	(6.3)

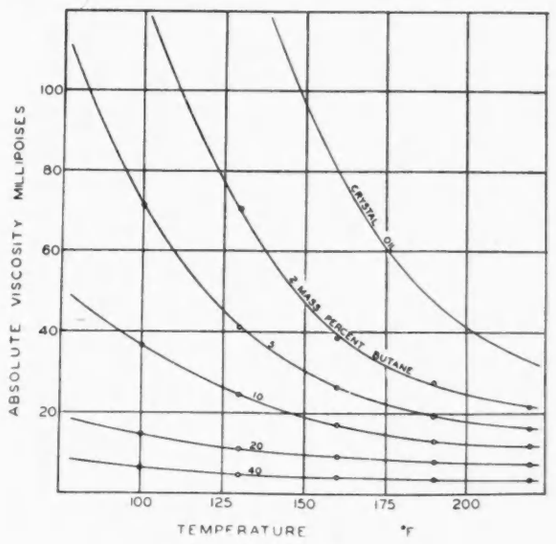

FIGURE 5
Relation of Viscosity to Temperature for *n*Butane-Crystal Oil Solutions of Constant Composition.

perature upon the viscosity of solutions of constant composition in this case.

The viscosity of saturated solutions of the *n*butane sample in crystal oil has been studied at five different temperatures from 100° F. to 220° F. Some representative experimental values are shown in Figure 3, and complete results are given in Table 2. The necessary density data for this work were obtained from another publication[3] by the authors. The viscosity of these solutions is plotted against temperature for various saturation pressures in Figure 4. The maxima in some of these curves are much more pronounced than was found for the ethane solutions shown in Figure 2. In this case phase-equilibrium data were available[3] for evaluating viscosity as a function of temperature for solutions of constant composition. The results are shown in Figure 5.

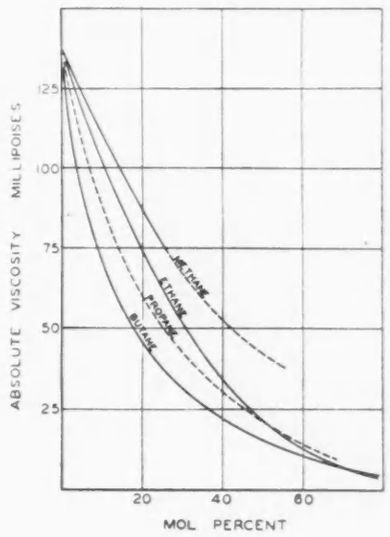

FIGURE 7
Comparison of the Viscosity of Solutions of Different Gases in Crystal Oil at 130° F. on the Basis of Molal Compositions.

Comparison of the Effect of Different Gases

The data presented here, together with those previously published,[5] permit a direct comparison of the

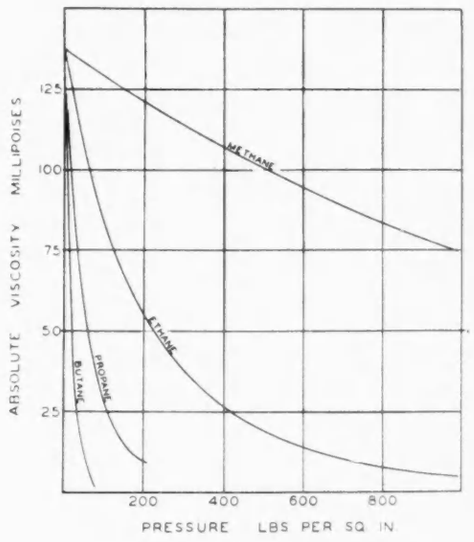

FIGURE 6
Comparison of the Viscosity of Solutions of Different Gases in Crystal Oil at 130° F. on the Basis of Saturation Pressures.

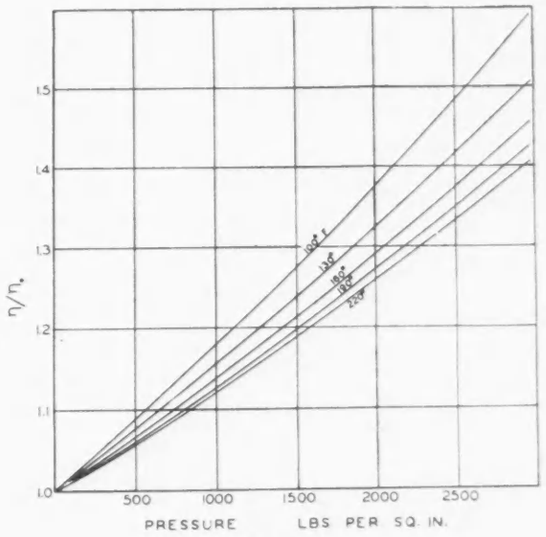

FIGURE 8
Viscosity of Crystal Oil Under Pressure as Compared to Its Viscosity at Zero Pressure.

effect upon viscosity obtained upon dissolving methane, ethane, propane, or *n*butane in crystal oil. Figure 6 presents such a comparison for a temperature of 130° F. upon a basis of equal saturation pressures. The large differences between the different curves would be partly accounted for by the different relative solubilities of the four gases. Therefore, it would be of interest to compare the effects of the different gases upon a basis of equal molal concentrations in the solutions. This comparison for 130° F. may be made in Figure 7. In this figure the curve for propane is shown by a dashed line, because the phase equilibrium data for this case were less dependable than in the other cases. A portion of the curve for methane is also shown as a dashed line, because at the higher pressures the compositions of the liquid phases are subject to some uncertainty due to transfer of crystal oil into the gas phase in the viscometer. At the lower concentration of solute, it is seen that the hydrocarbon gases of higher molecular weight have a greater effect in reducing the viscosity. Since propane and *n*butane have critical temperatures higher than 130° F., it would be expected that the curves corresponding to these solutes would proceed to the viscosities of the pure liquid solute at a molal composition of 100 percent.

The curve for the methane solutions is seen to lie distinctly higher at the greater concentrations than those for the other solutes. For a given concentration, the equilibrium pressure for the case of methane is relatively high, and under such conditions the effect of pressure upon the viscosity of liquids becomes appreciable. To learn whether this effect of pressure was significant within the range used in this work, a series of determinations was made using crystal oil without a solute and applying various pressures to it in the viscometer by adding mercury to a compression chamber in the circulation system. The results of this series of measurements at various temperatures are shown in Figure 8. It was found that the increase of viscosity due to pressure was large enough, at the saturation pressures existing for the methane solutions, to have an appreciable effect in counteracting the decrease in viscosity due to the dissolving of the methane.

Acknowledgments

These studies were made as a part of the work of Research Project 37 of the American Petroleum Institute. Both interest shown by the Institute and financial assistance are appreciated by the authors. The figures were prepared by D. C. Webster. B. N. Inman made the measurements used in the preparation of Figure 8.

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[1] B. H. Sage, *Ind. Eng. Chem.* (Anal. Ed.) **5**, 261 (1933).
[2] B. H. Sage, H. S. Backus, and W. N. Lacey, *ibid.* **27**, 686 (1935).
[3] B. H. Sage and W. N. Lacey, *ibid.* **28**, 106 (1936).
[4] B. H. Sage, W. N. Lacey, and J. G. Schaafsma, *ibid.* **26**, 874 (1934).
[5] B. H. Sage, J. E. Sherborne, and W. N. Lacey, *ibid.* **27**, 954 (1935).

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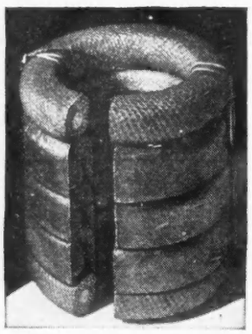

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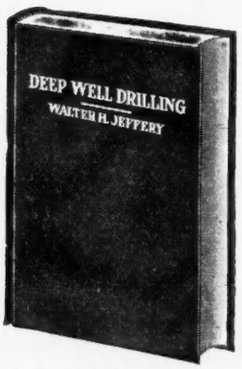

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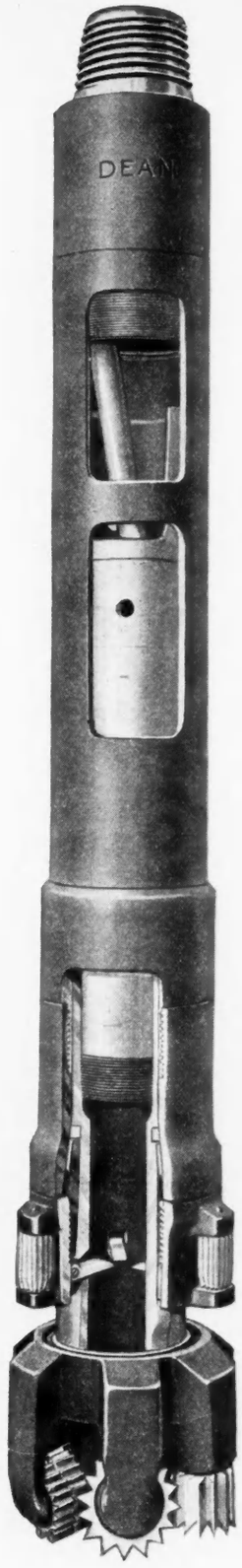

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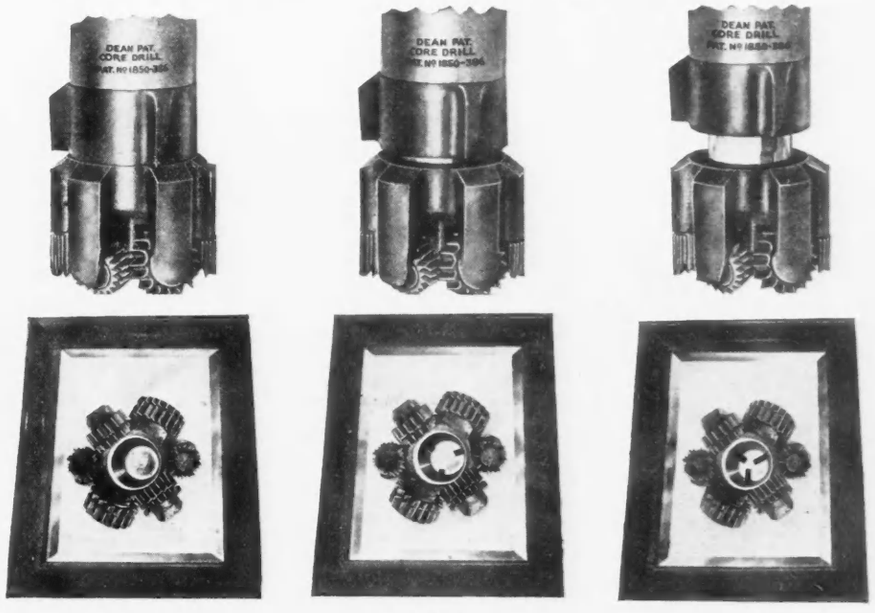

FIG. 1 FIG. 2 FIG 3

FIG. 1 Dean rock core head showing fully retracted position of catcher dogs outside of core chamber while coring, permitting easy entrance of the core.

FIG. 2 When the core chamber is filled with core, a slight lift of the drill spline forces the catcher dogs against the core; and continued rotation of drill positively forces these catcher dogs through the core, severing the toughest formations.

FIG. 3 Catcher dogs in fully closed position after severing the core. In this position they support the core while coming out of the hole, assuring full recovery of any core that can get into the core chamber.

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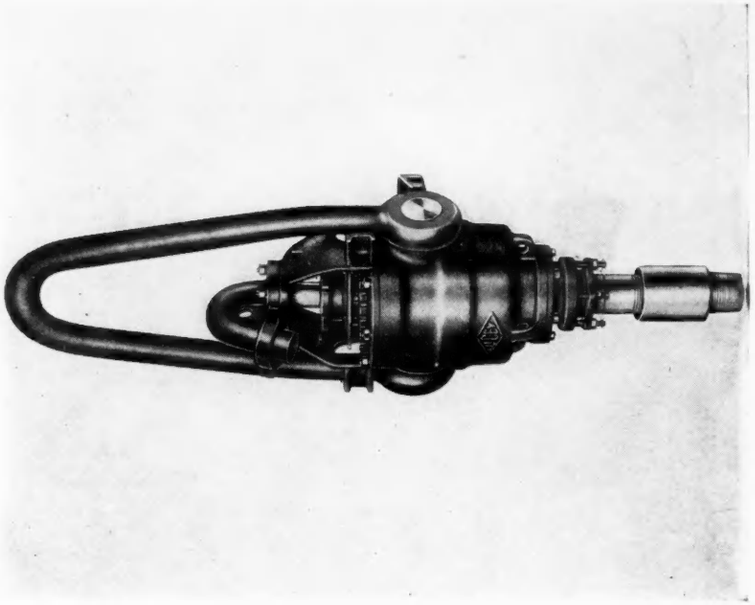

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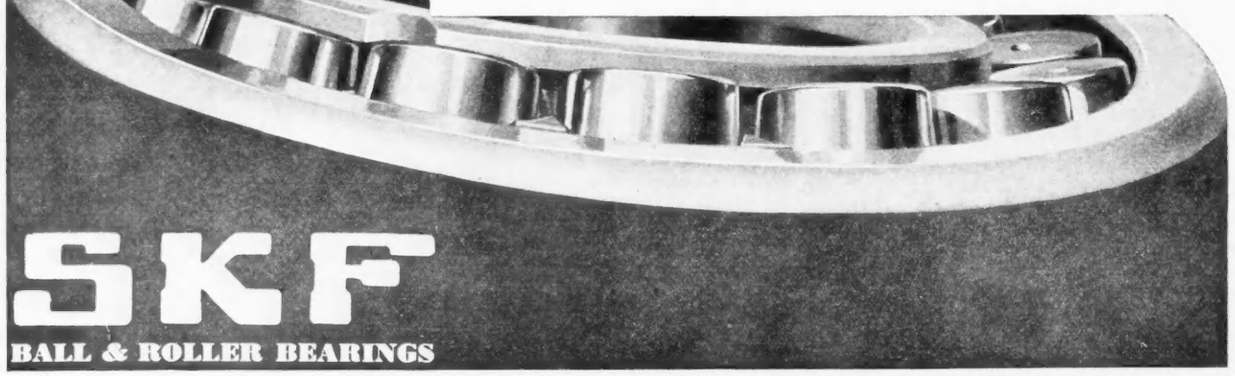


Prospects Good

CALIFORNIA PRICES HIGHER AND OTHER MARKETS STEADY

THE market situation showed additional improvement during the past week and the current outlook appears distinctly favorable.

Chief among the encouraging developments of last week was the increase of crude prices in California, as producers there were rewarded for their determined production curtailment efforts of recent weeks.

Another favorable development was the strengthening of the Mid-Continent markets for kerosene and tractor fuel. Refiners' supplies of these materials are limited, and inquiries and orders have been increasing lately, with jobbers in the agricultural sections beginning to accumulate supplies in anticipation of spring plowing. The result has been an increase of the prices, with offerings scarce. The lowest price currently in the Chicago tank car market is 3⅞ cents a gallon.

More moderate weather has resulted in smaller demand for fuel oil but prices have continued about unchanged.

On the other hand, the warmer weather has had some steadying influence on the gasoline markets throughout most of the country, although there were instances of price declines during the past week.

East Texas Prices Lower

In East Texas the gasoline tank car prices slipped down a notch the past week, with major companies adopting a price of five cents a gallon instead of 5⅛ cents for motor fuel purchased through the buying pool. Material sold direct by the East Texas refiners for interstate shipment ranged, meanwhile, from 4½ to 5 cents. Tank car shipments to Texas points, usually supported by state but not federal tenders, involve prices of 4 to 4¼ cents. Tank truck deliveries now hover around the four-cent level, but are a fraction lower in some instances.

Only about 17 plants are active in East Texas, and the amount of hot oil processed continues low. For weeks the hot oil volume has been held down around 10,000 barrels daily, or lower.

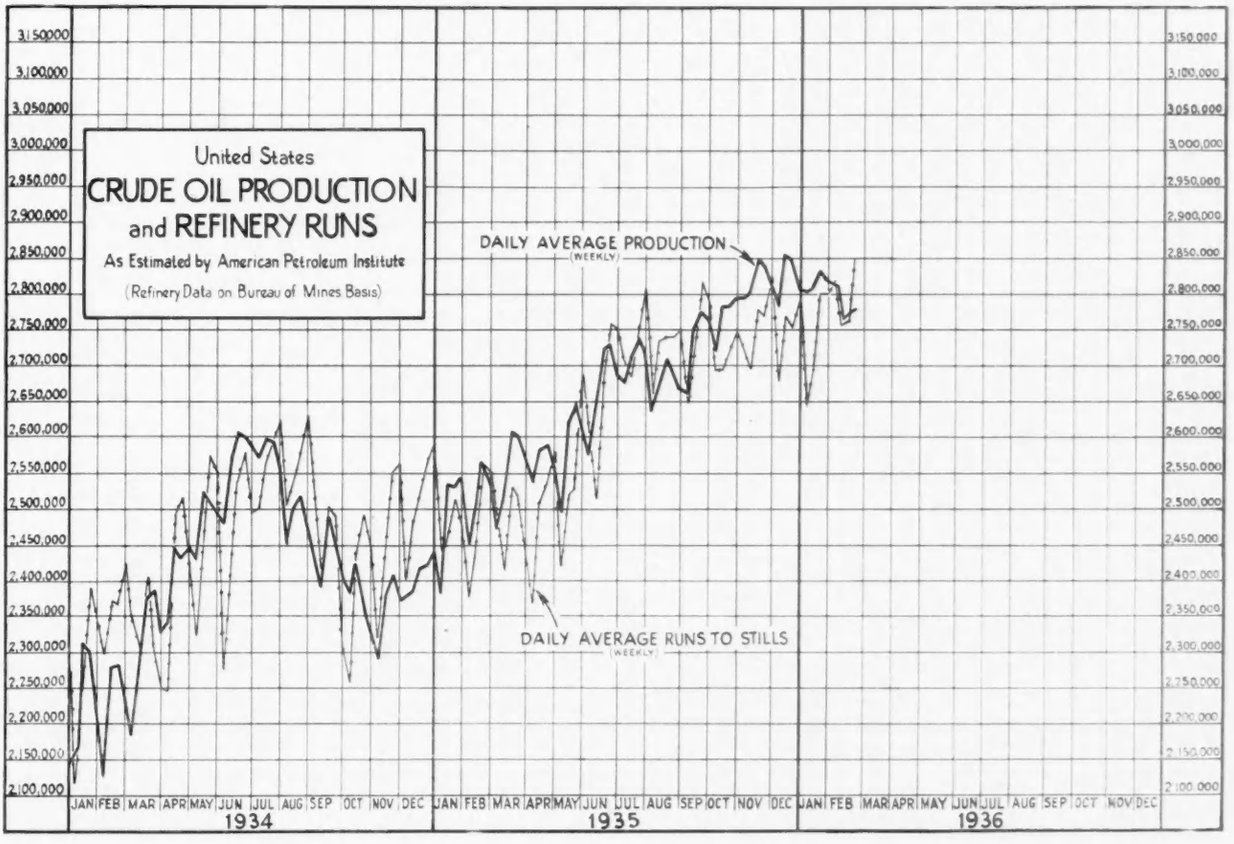
The Group Three, Oklahoma, gasoline tank car prices remained practically unchanged during the past week, although demand was stimulated by warmer weather. While consumption picked up perceptibly, due to better motoring conditions, the volume of business still was reported sub-normal, with the open market sales particularly light. Similar conditions prevailed, meanwhile, in the Chicago market.

Late last week the prevailing tank car prices on U. S. motor gasoline at Oklahoma refineries were as follows: low octane material, 62 and below, 5 to 5⅛ cents a gallon; 63-70 octane, 6 to 6¼ cents. In North Texas, the corresponding prices, quoted by refiners on the basis of f.o.b. Group 3, were 5⅛ and 6⅛ cents.

Effective February 26, Standard Oil Company of Ohio, reduced its posted gasoline tank car prices one-eighth cent a gallon, new prices exclusive of taxes being 8¾ cents for U. S. motor gasoline and 9 cents for above 65 octane gasoline, in tank cars, delivered anywhere in Ohio. The reduction reflected a similar decline lately in the Oklahoma market for 63-70 octane gasoline.

California Price Increase

Up to Friday morning of last week, three major purchasing companies had



met the new crude price schedule for California fields inaugurated by Standard Oil Company of California February 26, and other purchasers were expected also to fall in line.

The schedule provided for increases of five cents a barrel for the heavier oils, and for greater increases, ranging up to 32 cents, for lighter crudes, depending on the gravity. The average increase was around 20 cents. The price increase affected the whole state except nine fields that had failed to curtail production in accordance with the voluntary program embarked upon by the California producers. The Standard Oil Company had offered to raise prices if and when the state's output was reduced within the indicated demand of 537,000 barrels daily.

Certain fields continued producing too much to permit the attainment of the goal, but the state's output was brought down within about 25,000 barrels of the goal, and the higher prices consequently were adopted, except in the fields where the curtailment plans were not successful. It was indicated that at least some of the fields with the unchanged prices likely would show further curtailment immediately, and similarly earn higher crude postings. For the past week the California production averaged around 564,500 barrels daily, or only about 27,500 barrels per day more than the desired level.

The Central Committee of California Oil Producers on February 27 set the California allotment at 538,800 barrels daily for March, and committees were re-arranging field quotas. The committee was studying suggestions that certain adjoining fields be combined for statistical purposes and that other fields be divided.

During January, with crude production averaging about 680,000 barrels per day, California showed an increasee of 4,442,362 barrels in the stocks of crude oil and petroleum products. Within a period of 12 months, the state's storage gain was close to 8,500,000 barrels. For February, it is indicated that the California crude production will have averaged about 100,000 barrels per day less than in January, the curtailment program having been launched about the beginning of February.

East Texas Tank Car Shipments

Week Ending February 23, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	573½	4,662,828
Fuel Oil	266	2,555,937
Casinghead Gasoline	154	1,279,035
Distillate	83	683,596
Gas Oil	37	304,129
Kerosene	21½	165,517
Residuum	2	16,209
Naphtha	2	16,144
Total	1,139	9,683,395
Total Previous Week	1,106	9,365,737
Coastwise	455	.....
Intrastate	354	.....
Interstate	330	.....
Total	1,139	.....

EARNINGS

REPORTS on financial results of oil companies in 1935, lately released, include those of South Penn Oil Company and of Seaboard Oil Company of Delaware.

The South Penn Oil Company reported net income of $2,321,357 for 1935, compared with $1,954,919 for 1934. During 1935 the company paid out of earnings dividends aggregating $1,542,606. In the previous year the dividend disbursements had aggregated $1,371,000. In 1935 the company drilled in Pennsylvania and New York 125 wells for the introduction of water and 152 for extraction of oil, and one dry hole. In West Virginia it drilled four gas wells and one pressure well, making the total number of wells completed 283 for 1935. The report also covers the subsidiary, Clayco Gas Company.

Earnings of Seaboard Oil Company of Delaware and its subsidiaries for 1935 are estimated by officers of the company and subject to audit at $1,650,000, equivalent to $1.32 per share on the 1,244,383 shares of capital stock outstanding at the close of the year. This compares with earnings of $1,375,590 in 1934, equivalent to $1.10 per share on a similar number of shares outstanding. The directors of the company on February 21 declared a regular dividend of 15 cents per share and an extra dividend of 10 cents per share, payable March 14, to stockholders of record February 29.

Shell Union Oil Corporation and subsidiaries had net income of $6,812,835 for 1935, after federal taxes, depreciation, depletion, interest and so forth, but before credits resulting from retirements of debentures. This was revealed by the company recently in its registration statements filed with the Securities and Exchange Commission for a new issue of $60,000,000 of 3½ percent 15 year debentures. The 1935 net income given above followed losses in the preceding five years, and compares with loss of $949,111 in 1934, which was exclusive of a net charge representing premium paid on redemption of debentures.

It has been unofficially estimated that Continental Oil Company for 1935 had net profit of over $1.60 a share, before considering a non-recurring profit on sale of gas properties in northern Oklahoma. In 1934 the company reported net profit of $4,865,358 after all deductions, or $1.03 a share on 4,738,593 shares of $5 par capital stock. The 1935 operations of the company were the best since 1930.

Shreveport, Feb. 28.—Atlantic Pipe Line Company has asked for estimates on an eight-inch welded line from its Horton tank farm south of Longview, Texas, to Rodessa, Caddo Parish, Louisiana.

GEORGE B. MORRIS, president of the Bradford Motor Works, Bradford, Pennsylvania, has recently completed a business trip through the Mid-Continent and Gulf Coast area.

Summary of Wells Completed in the United States Week Ending February 29, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this date 1935
Alabama	.....	.....	.....	.....	.....	.....	1
Arkansas	2	2	.....	.....	1,413	11	35
California	13	10	.....	3	3,485	129	98
Colorado	.....	.....	.....	.....	.....	.....	2
Illinois	.....	.....	.....	.....	.....	.....	4
Indiana	9	.....	3	6	.....	31	30
Kansas	24	14	.....	10	13,611	172	192
Kentucky	12	6	.....	6	608	21	16
Louisiana	19	14	2	3	52,660	122	105
Michigan	5	1	2	2	1,000	103	50
Mississippi	1	.....	.....	1	.....	1	5
Montana	1	1	.....	.....	70	16	8
New Mexico	12	9	2	1	24,895	62	39
New York	.....	.....	.....	.....	.....	.....	.....
Ohio	84	23	46	15	604	333	248
Oklahoma	33	22	3	8	8,725	366	318
Pennsylvania	.....	.....	.....	.....	.....	.....	23
Texas	202	134	8	60	191,167	1,536	1,579
Utah	.....	.....	.....	.....	.....	.....	.....
West Virginia	12	9	2	1	86	96	84
Wyoming	1	1	.....	.....	70	6	1
Total this week	430	246	68	116	298,394	3,004	2,838
Total last week	388	251	70	67	457,409	.....	.....
Total this year	3,004	1,958	357	689	3,083,685	.....	.....

Comparison of Permits Granted for New Wells

STATE	Week Ending Feb. 29	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	..	5	14	31	70
California	21	67	107	111	925
Louisiana	12	98	169	112	846
Kansas	20	121	238	220	1,204
Michigan	7	39	95	62	749
Oklahoma	37	184	376	306	2,311
Texas	251	1,104	1,858	1,993	10,800
Total	348	1,618	2,807	2,841	16,964

PRODUCTION LOWER

California and Oklahoma contribute to decrease

CONTROL of crude oil production was comparatively successful again the past week, as California output declined further, while Oklahoma showed a substantial decrease. Partially offsetting those decreases, however, were increases for Louisiana and Kansas. The Louisiana production has been steadily rising for a long period, and is becoming a matter for anxiety.

During the past week the United States production, averaging 2,767,000 barrels daily, was 118,900 barrels per day higher than the Bureau of Mines recommendation. Of that excess, Louisiana accounted for more than one half, having averaged 65,400 barrels a day more than the bureau suggestion. For the week the Louisiana excess was greater than for any other state. Although California previously had been registering the greatest over-production, its excess last week was down to 34,900 barrels daily. The two states, Louisiana and California, together were responsible for most of the national excess last week.

The national production last week was 2,767,000 barrels daily, as estimated by THE OIL WEEKLY, was 8050 barrels a day lower than in the previous week.

California Curtails

California producers succeeded last week in further reducing the state's output, through their voluntary curtailment program. The production averaged 564,500 barrels daily for the week, or 9000 barrels a day less than in the preceding week. Since last week's crude price increases in California left postings unchanged for nine fields that had not succeeded in effecting desired curtailment, it is expected that determined efforts will be made to bring the output down in those fields immediately, in order to share in the better prices..

Oklahoma production declined nearly 25,000 barrels last week, in averaging 499,500 barrels daily, but it still was about 16,000 barrels per day above the daily average recommended for February by the Bureau of Mines.

Texas production was practically at the same level as in the previous week, having averaged 1,076,300 barrels daily. That was about 8000 barrels a day more than the Bureau of Mines estimate of desirable production..

Louisiana Output High

Louisiana last week averaged 206,500 barrels daily, a new record for the state, and showed an increase of about 17,000 barrels over the daily production for the previous week. The northern section of the state accounted for most of the increase, with the Rodessa field largely responsible. The North Louisiana production last week averaged 72,400 barrels daily, while that of the Gulf Coast section averaged 134,100 barrels per day. The Bureau of Mines suggested that the Louisiana total be held during February to 141,100 barrels daily. However, the proration officials of the Louisiana state government was considerably more generous

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING February 29	February 22
TEXAS—		
Texas Panhandle	59,200	58,400
North Texas	56,600	56,800
West Central Texas	25,100	25,600
West Texas	160,800	160,400
East Central Texas	49,600	50,200
*East Texas Field	436,800	435,800
†South Texas	70,600	71,100
†Texas Gulf Coast	217,600	218,300
*Total Texas	1,076,300	1,076,600
OKLAHOMA—		
Oklahoma City	131,150	150,625
Seminole Area	125,525	125,900
Tatums	3,600	3,600
Lucien	10,000	10,250
Fitts	42,575	42,750
Edmond	9,150	9,475
Others	177,500	181,200
Total Oklahoma	499,500	523,800
KANSAS—		
Ritz-Canton	6,525	6,205
Voshell	3,525	4,075
Nikkel-Hollow	4,250	3,975
Sedgwick	5,975	5,675
Oxford	7,700	8,000
Burrton-Haury	13,750	13,425
Lorraine	11,375	8,925
Others	96,550	91,500
Total Kansas	149,650	141,600
LOUISIANA—		
North Louisiana	72,400	55,900
Louisiana Gulf Coast	134,100	133,200
Total Louisiana	206,500	189,100
ARKANSAS	29,250	29,450
CALIFORNIA—		
Long Beach	69,500	70,000
Santa Fe Springs	43,500	43,500
Huntington Beach	37,000	38,000
Dominguez	30,000	31,000
Inglewood	12,000	12,500
Ventura Avenue	33,500	33,500
Seal Beach	7,000	7,500
Midway-Sunset	47,500	48,500
Elwood	12,000	12,500
Kettleman Hills	75,500	75,500
Mountain View	27,500	28,000
Playa del Rey	13,500	13,500
Others	156,000	159,500
Total California	564,500	573,500
MOUNTAIN STATES—		
Wyoming	31,200	32,200
Montana	12,400	13,100
Colorado	3,900	3,800
Total Rocky Mountain States	47,500	49,100
NEW MEXICO	57,200	57,200
EASTERN STATES	100,400	98,600
MICHIGAN	36,200	36,100
*Total United States	2,767,000	2,775,050
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	10,000	10,000
Grand Total, including surreptitious production	2,777,000	2,785,050

† Coastal District of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended February 22, 1936

(Figures in thousands of barrels of 42 gallons each, reported by American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished										
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	493	80.6	6,407	8,919	1,020	16,346	2,194	‡3,732	5,926	534	534	100.0	110
Appalachian	154	146	94.8	107	73.3	1,597	955	265	2,817	470	206	676	79	78	98.7	23
Ind., Ill., Ky	442	424	95.9	373	88.0	6,828	3,258	856	10,942	837	1,417	2,254	349	348	99.7	101
Okla., Kans., Mo	453	384	84.8	264	68.8	4,580	2,323	657	7,560	688	1,982	2,670	256	228	89.1	55
Inland Texas	330	160	48.5	91	56.9	1,391	117	226	1,734	162	1,215	1,377	148	105	70.9	23
Texas Gulf	680	658	96.8	611	92.9	7,270	271	1,735	9,276	3,185	4,894	8,079	399	393	98.5	121
Louisiana Gulf	169	163	96.4	128	78.5	1,117	422	198	1,737	739	2,085	2,824	77	74	96.1	27
North La.—Ark.	80	72	90.0	43	59.7	234	73	94	401	36	440	476	46	44	95.7	9
Rocky Mountain	97	60	61.9	40	66.7	1,320	.....	99	1,419	141	534	675	46	39	84.8	13
California	852	789	92.6	506	64.1	9,300	2,215	1,294	12,809	.....	.....	70,371	280	280	100.0	66
Reported	.....	3,468	89.6	2,656	76.6	40,044	18,553	6,444	65,041	.....	.....	§95,328	.....	2,123	95.9	548
Estimated Unreported	.....	401	....	194	....	2,894	815	603	4,312	.....	.....	1,258	.....	91	....	32
*Estimated Total U.S. February 22, 1936	3,869	3,869	....	2,850	....	42,938	19,368	7,047	69,353	.....	.....	96,586	2,214	2,214	....	580
*Estimated Total U.S. February 15, 1936	3,869	3,869	....	2,765	....	40,587	20,001	6,877	67,465	.....	.....	96,967	2,214	2,214	....	570
U.S.B. of M., Feb. 1935	.....	....	....	2,529	....	†38,548	†20,391	†5,949	†64,888	.....	.....	†101,085	.....	....	....	537

*Bureau of Mines basis currently estimated. †As of February 28, 1935. On March 31, 1935, total stocks of Finished and Unfinished Gasoline were 66,290,000 barrels. Stocks as of February 15 revised as follows: ‡3,750 barrels; §95,709,000 barrels.

in fixing an allowable for the state, and the actual production has not been much out of line with the state-fixed allowable.

Kansas crude output last week was about 8000 barrels a day higher than in the previous week, having averaged 149,650 barrels daily. The new production rate was about 12,000 barrels above the daily output suggested by the Bureau of Mines.

WATER FLOODING

Proposed in Wichita shallow sands

Austin, Texas.—A new water flooding program was presented to the Railroad Commission last week by the McCarthy Oil Company, operators of two leases in the Oscar Farrish Survey in Wichita County.

A few months ago The Texas Company obtained a permit to flood its leases in Brown County in an effort to increase production through the use of an artificial water drive. A similar plan was proposed by the McCarthy Company.

Production in the Wichita area is from four shallow sands. It is proposed to flood the sands at 240, 360 and 580 feet, but the 440-foot sand is considered worthless from this standpoint.

By injection of water the operators hope to increase the production which now averages 12 barrels per day from 25 wells. They told the commission that the lease has been operating at a loss for the past three years.

Owners of some of the offsetting properties protested against the plan, but engineers expressed the opinion that there was little danger of water reaching these offsetting tracts within a reasonable time. They pointed out that an experiment in artificial water flooding at Bradford, Pennsylvania, had shown that the water progressed only 300 feet the first year, and moved more slowly thereafter.

It was explained that the injection well on the McCarthy lease will be approximately 2574 feet from the nearest well on an offsetting lease.

Supplemental California Schedule

Fields listed below were not included in new schedule February 26, 1936, and prices are those effective since December 6, 1935.

	Signal Hill	Alamitos Heights	Huntington Beach	Playa del Rey	Dominguez	Santa Fe Springs	Kern Front	Elk Hills	Lake View
14–14.9	$ .75	$ .74	$ .73	$ .75	....	....	$ .65	$ .65	$ .65
15–15.9	.75	.74	.73	.75	....	....	.65	.65	.65
16–16.9	.75	.74	.73	.75	....	....	.65	.65	.65
17–17.9	.75	.74	.73	.75	....	....	.65	.65	.65
18–18.9	.75	.74	.73	.75	....	....	.65	.65	.65
19–19.9	.75	.74	.74	.76	....	....	.65	.66	.65
20–20.9	.76	.74	.76	.79	....	....	....	.68	.66
21–21.9	.78	.74	.78	.81	....	$ .73	....	.71	.68
22–22.9	.80	.74	.80	.84	....	.73	....	.74	.71
23–23.9	.82	.77	.82	.86	$ .79	.73	....	.77	.74
24–24.9	.84	.80	.84	.88	.81	.75	....	.80	.77
25–25.9	.86	.82	.86	.91	.83	.77	....	.83	.80
26–26.9	.88	.85	.88	.93	.86	.79	....	.86	.83
27–27.9	.90	.88	.90	....	.88	.82	....	.88	.86
28–28.9	.92	.90	.91	....	.90	.84	....	.91	.88
29–29.9	.94	.93	.93	F.O.B.	.93	.86	....	.94	.91
30–30.9	.96	.95	.95	Pipe	.95	.89	....	.97	.94
31–31.9	....	....	....	Line	.97	.91	....	.99	.97
32–32.9	....	....	....	....	1.00	.93	....	1.02	.99
33–33.9	....	....	....	....	....	.95	....	1.04	1.02
34–34.9	....	....	....	....	....	.98	....	....	1.04
35–35.9	....	....	....	....	....	1.00	....	....	....
36–36.9	....	....	....	....	....	1.02	....	....	....
37–37.9	....	....	....	....	....	1.04	....	....	....
38–38.9	....	....	....	....	....	1.07	....	....	....
39–39.9	....	....	....	....	....	....	....	....	....
40–40.9	....	....	....	....	....	....	....	....	....

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to February 28, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	* .58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.12			11- 7-35
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °46
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3⅛ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field Effective January 26, 1936)

Gravity	Signal Hill*	Seal Beach Alamitos Heights*	Huntington Beach*	Inglewood	Playa Del Rey*	Olinda Brea Canyon	Athens Rosecrans Dominguez*	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs*	NewHall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Elk Hills* Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	.....	$ .79	.....	$ .79	.....	$ .76	.....	.....	$ .80	$ .76	$ .76	$ .77	$ .78	.....	$ .70	.....	$ .70	$ .70	$ .70	.....
15-15.9	.....	.79	.....	.79	.....	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
16-16.9	.....	.79	.....	.79	.....	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
17-17.9	.....	.79	.....	.81	.....	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
18-18.9	.....	.79	.....	.84	.....	.78	.....	.....	.82	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
19-19.9	.....	.79	.....	.87	.....	.81	.....	.....	.85	.76	.78	.77	.78	.....	.70	$ .70	.74	.74	.71	$ .70
20-20.9	.....	.79	.....	.90	.....	.84	.....	.....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.....	.79	.....	.93	.....	.88	.....	.....	.91	.80	.85	.77	.84	.....	.....	.73	.82	.82	.74	.70
22-22.9	.....	.82	.....	.96	.....	.92	.....	.....	.93	.84	.89	.79	.88	.....	.....	.77	.87	.86	.78	.72
23-23.9	.....	.86	.....	.99	.....	.96	$ .84	.....	.96	.88	.93	.82	.92	.....	.....	.80	.92	.90	.82	.76
24-24.9	.....	.91	.....	1.02	.....	.99	.88	.....	.99	.91	.96	.85	.96	.....	.....	.84	.97	.94	.86	.79
25-25.9	.....	.95	.....	1.05	.....	1.03	.93	.....	1.02	.95	.....	.89	.99	.....	.....	.88	1.01	.98	.90	.83
26-26.9	.....	1.00	.....	1.09	.....	1.06	.98	.....	1.05	.98	.....	.92	1.03	.....	.....	.91	1.06	1.02	.....	.....
27-27.9	.....	1.05	.....	1.12	.....	1.10	1.03	.....	.....	1.02	.....	.96	1.06	.....	.....	.95	1.10	1.06	.....	.....
28-28.9	.....	1.10	.....	1.15	.....	1.14	1.07	.....	.....	1.06	.....	.99	1.10	.....	.....	.99	1.15	1.10	.....	.....
29-29.9	.....	1.15	.....	1.18	.....	1.17	1.12	.....	.....	1.09	.....	1.03	1.14	.....	.....	1.02	1.20	1.14	.....	.....
30-30.9	.....	1.19	.....	1.21	.....	1.21	1.17	F.O.B.	.....	.....	.....	1.07	1.17	.....	.....	1.06	1.25	1.18	.....	.....
31-31.9	.....	.....	.....	1.24	.....	1.24	1.22	Ship	.....	.....	.....	1.11	1.21	.....	.....	1.09	1.29	.....	.....	.....
32-32.9	.....	.....	.....	1.27	.....	1.27	1.27	.....	Kettelman Hills			1.14	1.25	.....	.....	1.13	1.34	.....	.....	.....
33-33.9	.....	.....	.....	.....	.....	.....	1.32	$1.28	1.19			1.18	1.28	.....	.....	1.17	1.38	.....	.....	.....
34-34.9	.....	.....	.....	.....	.....	.....	1.37	1.32	.....	1.23	.....	1.22	1.32	.....	.....	1.20	.....	.....	.....	.....
35-35.9	.....	.....	.....	.....	.....	.....	1.42	1.35	.....	1.27	.....	1.25	.....	.....	.....	.....	.....	.....	.....	.....
36-36.9	.....	.....	.....	.....	.....	.....	1.46	1.39	.....	1.31	.....	1.29	.....	.....	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	.....	1.51	1.43	.....	1.35	.....	1.32	.....	.....	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	.....	1.56	.....	.....	1.39	.....	1.36	.....	.....	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	.....	1.61	.....	.....	1.43	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	.....	.....	1.43	.....	.....	.....	.....	.....	.....	.....	.....

*The following fields are not being advanced at the present time: Signal Hill, Alamitos Heights, Huntington Beach, Playa del Rey, Dominguez, Santa Fe Springs, Elk Hills, Kern Front and Lakeview Area of Midway-Sunset. See Supplemental schedule on page 46.

Edited by
WM. V. GROSS, Associate Editor

Engineers Symposium

FOREIGN DEVELOPMENT NO THREAT TO STABILIZATION

New York.—Foreign oil development presents no threat against stabilization of world markets according to papers presented before the foreign symposium of the American Institute of Mining and Metallurgical Engineers, whose annual meeting closed in New York, February 21.

Venezuela, which ranks fifth in world crude oil reserves was represented by contribution by G. A. Baird of Venezuelan Gulf Oil Company. Well completions showed a slight decline in 1935, 189 against 234 in 1934. Production, however, was substantially higher, the increase being due to flush oil from Lagunillas and Quirequire fields and to the installation of pumping units in the Maracaibo basin area. Baird estimated 1935 production at 148,893,000 barrels, a 12,500,000-barrel increase over 1934. Eight wildcats were drilled during the year, all of them dry. All other drilling was in proven fields.

As of December 31, 1935, Baird put the total drilling wells in Venezuela at 35. Of this number 13 were in the older proven fields and 22 in the newly proven territories.

Production and Reserves

At the close of the year there were 1855 wells on production in Venezuela, 1000 pumping, 500 flowing, and the remainder on gas or air lift.

Natural gasoline recovery in 1935, amounted to 500,000 barrels or about the same as the 1934 recovery.

Total cumulative production for Venezuela, through 1935, was estimated to be 1,152,000,000 against a total reserve of 1,350,000,000 given Venezuela by V. R. Garfias and R. V. Whetsel. Storage in Venezuela at the close of the year amounted to 6,469,348 barrels..

No New Fields

No new fields were discovered in Venezuela in 1935, but important extensions were made at La Rosa, Lagunillas, Mene Grande, and Quirequire. Lagunillas produces more than 54 percent of the nation's total today. Its heavy oil zone between 1100 and 1200 feet, is practically untouched.

Other important facts contained in the Venezuelan paper were: no wildcats were completed in the Maracaibo basin in 1935, but one is drilling; Quirequire field got 43 producers of 44 completions and produced 19,784,565 barrels; heaving shale has been found in same wildcat wells being drilled by Standard Oil Company of Venezuela; six geophysical parties, four torsion balance parties, and three magnetometer parties were busy in Venezuela at the close of the year.

Iraq and Iran

Ben B. Cox, Socony-Vacuum Oil Company, Inc., New York, said one interesting fact about Iraq developments in 1935, was the discovery of three structures in the West Tigris area. Chief activity of Iraq, which produced slightly less than 28,000,000 barrels in 1935, continues to be exploitation of the Kirkuk district.

The Iraq pipe line, according to his paper, is operating at the rate of 4,000,000 tons per year. Plans are being made to get the heavy oil to the coast by tank cars rather than through the pipe line.

Maurice R. Bridgeman, American representative of the Anglo-Iranian (Anglo-Persian) Oil Company, supplied a brief, but interesting paper on Iran. Masjid-I-Sulieman is using acid treatment and is reducing back pressure on its wells. By returning surplus products to the reservoir, the pressure decline rate in Masjid-I-Sulieman is held to one pound per year.

The area of Haft Kel field has been increased to 50 square miles, necessitating an increase in pipe line capacity. Production of the Naft-I-Shah field is used to supply local demand.

Argentina

New legislation, coupled with the government's policy on reserve acreage have been restrictive on Argentine oil activities during 1935, according to a paper prepared by G. Hileman. The new petroleum bill provides for royalty on all production ranging from eight to 12 percent, according to the zone from which the oil is taken and the government's policy on reserves has removed 120,000,000 hectares for reserves of the government. No private companies operate in this county.

Production in Argentina in 1935 totaled 2,272,649 cubic meters. This figure represents an increase over the 1934 output and was occasioned by new wells in the northeastern part of the Commodoro Rivadavia district. Mendoza district's production was also slightly up, although Salta district's output declined.

Technical advances in Argentina consist largely of use of electrical coring and the introduction of the rotary rig into the Plaza Huincul zone.

Peru

A paper on Peru by Oliver B. Hopkins, chief geologist, Imperial Oil Company, said that 1935 production of 17,000,000 barrels, represented Peru's peak year. Cumulative total production of Peru through 1935, he put at 188,000,000 barrels.

Lobitos, the main field of Peru, produced 2,225,000 barrels during the year. Wildcat interest in Peru during 1936 will be centered in three areas in which the government is taking the lead in exploratory work.

Technically Peruvian operations will be of interest during 1936 for the data they are expected to furnish on the continuation of repressuring work. Fifty to 60 percent of the gas produced in a major field is returned to the reservoir.

Romania

Professor Benjamin C. Craft of Louisiana State University read a paper on Romania, telling that production there had decreased from 62,909,000 barrels in 1935, to 82,486,000 barrels in 1934. The decline was attributed to lack of free exchange, high taxes, and lack of reserves. More than 47 percent of the 1935 production came from state owned lands.

Total footage drilled in Romania in 1935 was estimated at 1,025,035 feet. Other interesting facts contained in the Romania paper were as follows: Boldesti was the only field to show an increase in production; Bucsani, the only new major field since 1929, produced 4,894,000 barrels last year; Gura Ocneiti, one of the leading fields in the nation, is practically all drilled up; Boldesti field produced 11,495,318 barrels during the year.

Germany drilled 574,000 feet in 1935, of which 182,000 feet were the result of government subsidy. Of the 3,007,776 barrels produced in Germany in 1935, Neinhagen produced 77 percent largely as a result of government help. Five minor fields were discovered in Germany last year. At the close of the year 43 wildcats and 40 wells in or near proven fields were drilling.

While Egypt is regarded as a nation of limited oil reserves, the paper on Hurghada field, sent to the meeting by H. Sadek Bey, contained some useful figures. Among his facts were that

Hurghada has a sand thickness of 122 feet, not all of which can be produced.

Cumulative production of the field through 1935 amounts to 3,989,387 tons. The field has 1050 acres. The per acre foot yield to the end of 1935, was 31 tons. Mr. Sadek stated 91 producing wells have been completed in Hurghada and that one producer and two dry holes were completed there in 1935.

Average depth of production in the field is about 1720 feet. At the close of the year 71 Hurghada wells were pumping its mixed base output.

Bahrein Island and Saudi Arabia were represented in a paper prepared by J. O. Nomland, resident geologist for the operating subsidiary of Standard Oil Company of California. The main producing sand at Bahrein has already been proven to cover more than 12,500 acres and it has not been defined at the end of 1935. Twenty wells have been completed and eight are drilling.

Mexico produced 40,082,000 barrels in 1935, according to the paper read for V. R. Garfias and R. V. Whetsel, Poza Rica field continues to hold the limelight of Mexican activities, having increased its production from 3,708,000 barrels in 1934, to 9,542,000 barrels in 1935, Poza Rica's record was six completions in 1935, with two failures.

Garfias and Whetsel expect drilling to decrease in 1936 in the north and south district fields, as well as those along the golden lane, but they expect the nation to produce 44,000,000 barrels this year.

The authors inferred in their paper that Poza Rica had been defined to the north and west. William B. Heroy, chief geologist of Consolidated Oil Corporation, said he did not believe a study of the logs and depths of these two wells justified the decision of the authors.

RULE 37 UPHELD

Courts will sustain commission

Austin, Texas.—The Texas Supreme Court last week refused a writ of error in the so-called "Marathon" case involving Rule 37. By this refusal, the first action of this kind taken by the supreme court, the opinion and decision of the appellate court was automatically adopted.

The appellate court held in effect that the courts would sustain and enforce Rule 37 until it was repealed by the railroad commission, regardless of any statement by the commission indicating that there was doubt as to the wisdom of the rule.

In its proration order of August 26, 1935, the commission expressed doubt as to the wisdom of the rule, and it was in this order that the commission made the statement:

"We further find, from the evidence, that the more wells that are drilled, the greater will be the ultimate recovery of oil and gas from any given pool."

This latter phrase, quoted above, was amended in the order issued last Tuesday to correct an impression that the commission intended to abandon the rule.

Paul on Relief

My loving Cleopatra:

Well, Cleo, I been so busy these past several months that I almost aint got time to do nothing elst but make reports on my activities to Messers Hopkins and Tugwell and Itches up in Wash. You see, honey, I been very active on the releaf roles and I been working for so many of these alphabetical burros that it kinder keeps me in a daze remembering whitch letters of the alphabet I get my pay from.

I certainly am disgusted with these folks whitch are again our great pres., mr Rosevelt, because I aint never had so much prosperity in all my born days. I think that you and yore mother certnly are wet being again him but I guess that that is the way of you plotocrats because nowadays folks whitch have boardin houses like you are property owners and to hell with you says I, only Cleo, you know I don't really mean to hell with you but with yore Maw who always wanted me to get out in the hot sun and work when I was boarding with her.

You'll have to forgive my spelling now, because I aint got me no stenographer like I used to have in the old daze and I been so busy getting relief that I aint had no time to study no white collar stuff. Now don't go getting the idear that I am a rufneck —my rufneckin daze was over when Wm Farish and Ross Sterling and others bought out the company I was rufnickin for at Goose Creek and I got promoted to drivin a ox team for J. D. Hughes.

Well, being in govt. work so to speak has give me an opportunity to exercise my mental talents and the other nite I was making a talk to a lot of us govt. employees about the best idear which has yet come to the attention of the pres. It is a great idear because so many diffrent depts. of goverment are affected that their aint practically no limit to how much can be done.

Now just i m a g i n e something whitch the secretary of the war and the secretary of the navy and the secretary of the interiour and the secretary of the weed cutting and the secretary of the weed planting all can have a hand in just the one thing.

the plan is this: Over in Louisiana where the govt. needs to get more folks on employ because you see, honey, it is a case of arithmetic, if there are more govt. employees than they are idependent voters we all get relected. Well over in La. the water hycinths is a terribul pest. You drop a few of 'em into a stream and purty soon the stream is so choaked up that the fish grow feet and take to the trees.

Now the Intercoastal canal is operated by the war dept. on account of navagability or something, and the navy ought to be interested because the army got the navy's job along this line many years ago. Secy. Itches ought to be interested because there is oil in them swamps and he wants to run that, and Adm. Hopkins is interested because he plows 'em up and I ain't sure about Tugwell but the skeam has been called harebrained so he ought to take to it.

Well, if we can get 50 good and true men to go out and git hycinth plants and drop 'em in all the waters of the intercoastl canal where they aint already it won't be long before the streams will be plumb choaked up with 'em. The work aint hard because we can get the navy to provide us boats to sit in and drop the hycinths from while the sailors sail the boats with oars or what do you have.

Now with 50 (fifty) men dropping in hycinths and summer coming on, by next Oct. and Nov., it will be needing about 2000 (two thousand) men to dig 'em out and throw them away, and 2050 (two thousand and fifty) votes aint to be sneezed at in a small state like La.

Well, like I was saying I was making a speach at a meeting of us workers and was telling my plan when one drunk up and starts saying,

"You're silly."

I stood it just about as long as I could then I pointed my finger in the little shrimps face and I said,

"You're drunk," said I.

"Yes, I know I am drunk, but tomorrow I'll be sober and you'll still be silly," said he, so I upt and stopped the meeting.

Hoping you are the same,

Lovingly,

PAUL PEEBLES.

PS—I just heard from Washington and they can't use my plan. They said that all them secretays and adms., can't even stay in harmony on things whitch don't affect each other and that if anything was worked up in whitch all of them had a dish, a kilkenny cat fight would sound like a Quaker prayer meeting by and in comparison. So I guess maybe I will vote with you and yore maw.

Extension Activities

OKLAHOMA CITY WELLS IN NORTH SECTOR WATCHED

WEEKLY STAFF REPORT

Oklahoma City.—Phillips Petroleum Company and Black Gold Petroleum's Lawyer 1, SE NE NE 22-12n-3w, northernmost drilling well in the Mansion area of the Oklahoma City pool, was shut down due to litigation and the plug was not drilled as was expected.

No information was released in regard to this test until recently and it was reported running low, perhaps to such an extent that it could not make a producer.

However, top of the Wilcox sand was reported at 6384 feet, which makes it high enough for production. Bringing in of commercial production at this point would open considerable territory for exploration to the north and northwest.

Development Moves Northward

Two new operations to the north of the present north extension or "Mansion Area" of the Oklahoma City pool were under way during the week. Barnsdall Oil Company's Bank-Geyer 1, SE SW SE 15-12n-3w, is approximately three-quarters of a mile north and slightly west of the present north limit of production. The second well is about one-quarter mile west of Bank-Geyer 1. The location is Murray et al's Wheeler 1, SW SE SE SW 15-12n-3w. Oklahoma City residents will vote on the question of whether the drilling zone will be extended westward from the present north zone on March 24. The state board of affairs has asked for bids on tracts which will provide space for a large number of drilling sites and it is anticipated that shortly after April 1, more than 50 drilling wells will be under way in the north area if the zone is extended by vote.

Stanolind Oil & Gas Company, Amerada Petroleum Corporation and Eason Oil Company's Gragg (Bird) 1, SW SW SE 20-18n-4w, one-half mile west of production in the old Lovell pool of western Logan County, was still trying to recover tools lost early in the month. This test topped Simpson dolomite at 5865 feet and was drilled to 5991 feet where it made 41,000,000 cubic feet of gas which had a gasoline content of one gallon per thousand cubic feet. The first hole at this location was started in July, 1935. The drill pipe was stuck at 5870 feet and when an attempt was made to pull it the pipe parted 1800 feet below the derrick floor. After fishing several weeks unsuccessfully operators whipstocked out at 5456 feet but could not stay out of the old hole and the test was abandoned. The rig was skidded 50 feet south and a new hole started in November.

Marathon Oil Company's Dahl 10, NE SE SE 31-14n-3w, northwest diagonal offset to the discovery well in the Edmond pool of northwestern Oklahoma County, topped Checkerboard lime at 5363 feet, missed the Viola lime and upper Simpson and encountered the first Wilcox sand at 6289 feet. Top of the second Wilcox sand was found at 6327 feet after cementing casing at 6295 feet.

Structurally it is next to the highest well in the field on top of the second Wilcox sand.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Crawford 1, NE NE SE 35-15n-2e, wildcat test in western Lincoln County, was bailing below 4500 feet late in the week and showing about 1,000,000 cubic feet of gas from 5244 feet, the total depth. Top of the first Wilcox sand was found 5110 feet and water was encountered in second Wilcox topped at 5218 feet. The hole was plugged back from 5244 to 5151 feet.

In the same part of the county The Texas Company set seven-inch casing at 5001 feet and was waiting on cement to set in Hollister 1, SE NE NE 6-14n-3e. Six feet of soft saturated Simpson dolomite was recovered between 5001 feet and 5007 feet, the total depth.

TEST DISAPPOINTING

Garvin wildcat shows salt water

Pauls Valley, Oklahoma.—Suggett & McElreath's Hyre 1, NE NE SE 23-3n-1w, wildcat test slightly over two miles southwest of here in north central Garvin County, changed overnight from a promising test to a disappointment. Thursday, operators cored from 4109 to 4119 feet, recovering six feet of well saturated sand thought to be Wilcox. Some gas was showing from the sand, the top of which was determined to be 4113 feet.

A few hours later a drill stem test showed 1800 feet of salt water and 800 feet of rotary mud with a scum of oil on top of the column. Preparations were being made to drill deeper.

Southern Oklahoma

HAS INTERESTING DEEP TESTS IN PROGRESS

Ardmore, Okla.—The southern part of Oklahoma was still an active area from the leasing and royalty viewpoint but its several wildcat tests remained in about the same status as during the preceding week. A new Simpson test in the old Healdton pool and the plugging back of the Simpson discovery well in the old Fox pool served to maintain interest.

Carter Oil Company et al's Williams 1, SW NE SW 27-2s-3w, Simpson discovery in the old Fox pool of northwestern Carter County, was plugged back early in the week from 7540 to 7300 feet to shut off caving hole. Late in the week operators were ready to start drilling out the cement. Officially this is a wildcat discovery since the state corporation commission has granted it an allowable of 100 barrels per day. However, it has made no production since late in October, 1935, when it blew out and flowed at the rate of from 5000 to 15,000 barrels per day for almost a week with the drill pipe stuck in the hole. After several weeks of unsuccessful effort to remove the pipe to 8058 feet the hole was plugged back and a whipstock set at 6069 feet. Pipe has been stuck again since starting the new hole below that point.

Approximately one mile to the west of the pool Gulf Oil Corporation's Fitzgerald 3, SE NW SE 28-2s-3w, was still at a total depth of 3035 feet where it yielded five and one-half barrels of oil and three-quarters of a barrel of water after being treated with 1000 gallons of acid. The plan for drilling this well is laid to provide for the testing of upper horizons but the arrangements and equipment are such that it can easily go to the deep Simpson zone.

In the Healdton pool in western Carter County, Sinclair Prairie Oil Company's Million Thomas 22, SE NE SW 5-4s-3w, was drilling below 3125 feet and making a head of oil per day. A second operation the objective of which will be the Simpson pay was announced the week when Carter Oil Company staked location for Roy M. Johnson 12, C N½ NW NW 5-4s-3w, approximately three-eighths of a mile west and slightly north of Million Thomas 22. The latter will be given acid treatment in the upper Simpson pay if

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This Year's **Gulf Coast Issue** is to be published March 16th. It will contain:

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something of importance is not found in a lower horizon.

Southeast of Hewitt

The Texas Company and J. H. Hudson had cleaned out to bottom at 4164 feet and were to run a liner in Cathey 1, SE NE NE 6-5s-1w, half mile southeast of established production in the old Bayou pool. This test created considerable excitement several weeks ago when it found saturated sand at 4098 to 4118 feet and 4135 to 4157 feet. After cementing 8⅝-inch casing at 4095 feet operators drilled the plugs and had about 2000 feet of fluid in the hole, most of which was 25-gravity oil. A small shot damaged the casing and no further testing has been possible.

Love County

Love County's two wildcat tests were somewhat routine, one drilling ahead after a long and unsuccessful fishing job and the other thought to be in the lower part of a very thick Simpson section. Sixteen miles west of Marietta in western Love County, Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, was drilling below 6740 feet. It had reached a depth of 7165 feet early in December, 1935, but drill pipe was stuck and the hole plugged back to 5432 feet. Operators whipstocked out and had the hard luck of again sticking the pipe at 6348 feet. This was soaked loose with oil and drilling was resumed about two weeks ago. Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Westheimer 2, SW SE SW 27-6s-2e, five miles northeast of Marietta in the northeastern part of the county, was at the moment probably the most interesting test in that part of the state. It was drilling at 6550 feet in limestone and shale. It is reported that dips ranging from 60 to 90 degrees have been observed in the cores. More than 2500 feet of material of Simpson age has been penetrated by the bit but operators believe the section may be much thinner than indicated by the measured thickness in the hole. With such sharp dips the bit may be traveling at times almost at right angles to the bedding planes in such manner as to give exaggerated thickness to the Simpson Group.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BRYAN COUNTY—		
Welch, Collins 1, ne ne ne 19-8s-8e	*	835
CARTER COUNTY—		
Phillips Pet., Tucker 5, se ne nw 29-2s-3w (pb 2270)	¶¼	3807
COAL COUNTY—		
Hudspeth et al, Schmelzer 1, ne sw ne 35-1n-8e	*	1207
CREEK COUNTY—		
Sinclair Prairie, Kernal 2, ne nw se 30-14n-8e (otd 3422)	85	4034
Tibbins Estate, Beard 2, nw nw ne 18-14n-9e	70	2367
Peter Adamson, Jr., Weaver 1, se se se 5-18n-10e	6	1800
Johnson Oil Ref., Stebbins 2, ne ne sw 11-19n-9e	lcn.	abd.
Murrell 6, sw se nw 17-19n-9e	30	2353
JACKSON COUNTY—		
Burnham & Young, Gyrman 2, ne nw sw 14-1n-20w	70	1530
KAY COUNTY—		
Shell Pet., Biddle 4, ne ne sw 5-28n-1w (otd 2370)	200	2751
KIOWA COUNTY—		
Beeler & Klein, VanKirk 1, ne ne sw 35-7n-15w	*	607
East VanKirk 1, sw nw se 35-7n-15w	*	609
NOBLE COUNTY—		
Carter Oil Co., Pfieffer 3, cne se 33-20n-2w	232	5054
OKFUSKEE COUNTY—		
Keaton & Gold, Likowski 1-A, se ne nw 26-11n-11e (otd 1698)	30	1880
OKLAHOMA COUNTY—		
British-American, Kersch 2, ne sw sw 23-12n-3w	lcn.	abd.
OKMULGEE COUNTY—		
Clark, Calleway 1-A, ne sw se 3-11n-12e (pb 2323)	*	2772
Mack Drilling, Moore 1, ne ne nw 31-13n-14e	*	1740
OSAGE COUNTY—		
Sinclair Prairie, 32, sw sw nw 19-23n-12e (otd 1766) (pb 1806)	5	1808
Lewis Prod. et al, Claremore 4, se ne se 17-24n-7e	273	2621
Lewis Prod., 2, ce¼ se ne 20-24n7e	217	2664
Kewanee Oil, Hale 2, se sw se 27-26n-6e (pb 2936)	188	2943
PONTOTOC COUNTY—		
Magnolia Pet., Burris 1, nw se nw 27-2n-7e	¶3½-359	4245
Metropolitan Life 1, sw nw ne 27-2n-7e	¶2½-2601	4265
Moore's Mack 1, sw nw se 28-2n-7e	¶1½-3139	4348
Moore et al, Wirick 9, nw se sw 29-2n-7e	¶6½	3507
Sinclair Prairie, Ralls 7, nw se sw 28-5n-8e	25	818
POTTAWATOMIE COUNTY—		
Magnolia Pet., West 1, sw nw se 22-6n-4e	*	3735
Gulf Oil Corp., Magnolia Pet., Vinson 1, ne sw ne 13-7n-4e	697	4128
SEMINOLE COUNTY—		
Francis, Kinney 1, ne ne se 24-5n-5e	12	2559
Lynch, Raglin "B" 1, sw se nw 19-5n-6e	153	2534
Harmann, Davis 1-A, nw se sw 7-6n-8e	30	2838
Manhattan, Moore 1-A, sw nw ne 25-9n-6e	243	4005
Mid-Continent, Lincoln 1, ne nw nw 33-9n-6e	*	4445
Carter Oil, Scott 2, ce¼ se sw 11-10n-6e	660	4138
STEPHENS COUNTY—		
Westheimer & Daube, Frensley 11, sw nw ne 34-1s-5w	¶1/20	990

*Failures; †Junked; ¶Million cu. ft. gas.

Muskogee.—A slowing down of interest in oil and gas leases on lands of the Five Civilized Tribes was indicated here on Tuesday, February 25, when 8711.96 acres brought a total bonus of $44,850.20 or an average of $5.15 per acre. Top price for the sale was $4200 paid by W. A. Delaney, Jr., for tract No. 80, E½ NE NW 13-5n-7e, in the Allen pool in southeastern Seminole County. Two tracts which had been avertised were withdrawn due to death of the allottee and one was withdrawn due to incompetency of the allottee.

NEW TEXAS EXPORTER

Houston.—American Petroleum Export Company, affiliated with Export Petroleum Company of California, has established offices in the Esperson building, according to an announcement made by Glenn A. Smith, of Los Angeles, president of both companies.

The personnel of the company will be the same as that of the parent company. J. E. Weatherford, Jr., has for the past year represented the company in Texas and will now take active management of the Houston office.

American Petroleum Export Company will operate in Texas, Louisiana and New Mexico. The company maintains representation in England, France, Germany, Italy, Spain and Japan.

A new Texas corporation, the Southern State Oil Company, has been organized for the purpose of purchasing crude oil and marketing all products in tank cars throughout the south.

POTENTIAL TESTS

Must be made within five days of completion

Austin, Texas.—Reports of potential tests, which the railroad commission requires for each newly completed well in Texas, must be in the commission office within five days after the test is made. This ruling was contained in an order which becomes effective on March 1.

To assure enforcement of the new rule, the order also provides that allowables fixed on these potentials will not be retroactive for a period longer than five days prior to the date the potential test form is received.

The new order also provides that potential tests shall be made on all wells shot or treated with acid. Allowables will be based on these tests for the 60 days after they are made.

During the latter 20 days of the 60 day period referred to, a new test of these wells must be made upon which future allowables will be based.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Gulf Oil Corp, Wendell 1, ne ne ne 36-19s-11w	717	3307
Gulf Oil Corp, Steckel 5, sw ne ne 1-20s-11w	1621	3274
Lario & I.T.I.O., Meyer 1, sw sw sw 13-20s-11w	*	3389
BUTLER COUNTY—		
Garden et al, Brenner 1, se sw sw 30-24s-4e	*	2735
DICKINSON COUNTY—		
Dutch Oil, Phillips 1, cne nw 15-15s-1e	*	3549
ELLIS COUNTY—		
Gibson et al, Ruder 1, sw sw se 8-15s-18w	1232	3325
GREENWOOD COUNTY—		
Lucille Oil, Christy 1, se nw se 12-26s-9e (otd 2159)	*	2541
HARVEY COUNTY—		
Shell Pet, Duerkson 1, se se sw 5-22s-3w	126	3522
NORTON COUNTY—		
Helmerich-Payne et al, Collins 1, cne 11-3s-25w	*	3800
RICE COUNTY—		
Phillips & I.T.I.O., Krampe 8, ne se se 31-19s-10w	1343	3290
Gulf Oil Corp, Hartle 4, sw ne nw 15-20s-9w	1486	3242
Mid-Continent, Hartle 6, sw se nw 15-20s-9w	1845	3239
RUSSELL COUNTY—		
Phillips Pet, Downing 1, se se sw 19-13s-14w	456	3055
Central Petroleum, Benso "C" 1, se se sw 9-14s-15w	292	3096
Phillips Pet & Sinclair Prairie, Driscoll 1, nw nw se 31-15s-11w	*	3407
SEDGWICK COUNTY—		
Dickey Oil, Nolan 6, nw se ne 20-28s-1e	515	3121
STAFFORD COUNTY—		
Herndon Drlg & Atlantic, Russell 1, cse nw 20-21s-14w	*	3792
SUMNER COUNTY—		
Derby Oil, Reitz 2, ne nw sw 25-31s-2e (otd 1889)	*	2277
Derby, Oil, Reitz 3, nw nw sw 25-31s-2e (otd 1904)	*	2245
Shell Pet, Shore 1-B, ne ne nw sw 25-31s-2e (otd 1899)	761	2179
Shell Pet, Emerich 2, sw ne sw ne 14-32s-2e (otd 2087)	156	2947
Shell Pet, Emerich 13, sw nw nw se 14-32s-2e (pb 2863) (otd 2065)	1809	2883
Lario & Barnsdall, Weinrich 14, se se sw nw 23-32s-2e	1252	3010
Helmerich & Payne, Wright 1, se se nw 10-33s-2e	*	3503

*Failures; †Junked; ¶Million cu. ft. gas.

Drilling Revived

KANSAS FIELDS RESPOND TO NEW PIPE LINE OUTLET

WEEKLY STAFF REPORT

Wichita, Kan.—The return of favorable weather to the northern Mid-Continent area made a busy week for Kansas scouts who reported a number of new wildcats. Trego, Russell, Ellis, Rice and Rooks Counties were the favored areas. A new pool in northeastern Barton County, extension of the Hilger pool of southeastern Reno County and the continued activity in a large number of pools which recently have received their first pipe line outlets were the highlights of the week in the Kansas petroleum industry. The connecting of more than 20 new pools in the western part of the state by Kaw Pipe Line Company, Stanolind Pipe Line Company and Skelly Oil Company during the past four or five months is beginning to show its effect upon activity and a number of one- and two-well pools which had been shut in for an average of four months had either received new operations or were on the schedule for further development in the near future.

New work showed a slight decrease during the week when scouts reported 20 new locations and 24 completions compared to 39 starts and 22 completions during the preceding week. Rice County led the state with seven first reports; Ellis County had three; Stafford and Sumner Counties, two each; and Rush, Woodson, Ellsworth, Marion, McPherson and Reno Counties, one each. Of the 24 completions 14 were oil wells rated at 13,611 barrels and 10 were dry holes. Five of the 10 dry holes were wildcat operations which accounted for 18,051 feet of drilling, six old wells were deepened a total of 3069 feet and 13 other completions which involved 41,605 feet brought total completed drilling to 62,725 feet for the week.

New Pool

Barton County was definitely assured of a new pool near Claflin in the northeastern part when Yarnell and Carlson's Bloomer 1, NE NE NW 36-17s-11w, yielded 470 barrels initially after being acidized. Total depth is 3281 feet in Arbuckle (Siliceous) lime topped at 3257 feet. This test had 2000 feet of oil in the hole early in February and pumped 92 barrels of oil in three hours before being treated with 2000 gallons of acid.

Three miles to the northwest of the new discovery Merriam et al had rig up for No. 1, SW SW SE 21-17s-11w. It is 17 miles northeast of Great Bend. Merriam is a pioneer Kansas operator and one of the discoverers of the McPherson or Anderson pool.

Phillips Petroleum Company's Matzek 1, NE NW NE 36-19s-11w, one location west of production in the north end of the Silica pool of Barton and Rice Counties, pumped 1100 barrels naturally from Arbuckle (Siliceous) lime drilled to 3287 feet, the total depth. This well was drilled by Manning and Terry in the record time of 242 hours.

The difficulty in defining trend of production in many of the new western Kansas pools is demonstrated by Twin Drilling Company's Sanders 1, NE NE NW 10-14s-17w, southwest diagonal offset to the discovery well in the Victoria pool of southeastern Ellis County. Sanders 1 topped Kansas City-Oswald lime at 3298 feet, 20 feet lower than the discovery, and found water at 3326 feet, strategraphically in the same position in which the discovery well found oil production. Operators were preparing to run 5 3/16-inch casing to shut off the water and explore the deeper zones. The discovery well yielded 928 barrels initially from 3303½ feet, the total depth. Four and one-half miles northeast of the pool Twin Drilling Company was digging a water well and expected to get started at Reidel 1, SW SW NE 27-13s-16w.

In the north end of the Schoenchen pool in the southern part of the county, Gulf Oil Corporation's Swires 1, SE SE SW 8-15s-18w, drilled the plug to top of the Oswald lime at 3263 feet, and had 1200 feet of oil in the hole in three and one half hours. It was then drilled to 3283 feet with no appreciable increase and was to be drilled deeper. At 3288 feet it had 2700 feet of oil and water. Production has been developed in both the Oswald and Arbuckle (Siliceous) limes in the pool. Tentative location has been made for Miller 1, Section 15-12s-19w, by James McMorrow et al. It is on an 8000-acre block nine miles northeast of Hays in the central part of the county. Bridgeport Machine Company et al were starting operations at Madden 1, SE NW NW 26-15s-18w, four and one half miles southeast of the Schoenchen pool and 12 miles southeast of Hays.

Jones, Swain and Hinkle's Schoenig 1, NE NE SE 21-18s-10w, one mile northwest of production in the Orth pool of northwestern Rice County, had a showing of oil from 3158 to 3168 feet and was drilling ahead below 3200 feet. It should be near the top of the Arbuckle lime a the present depth.

Three miles west of the Orth pool Aylward et al had rig up for Oberly 1, SE SE SW 19-18s-10w. In the Rice County or eastern part of the Silica pool Hutchinson et al had completed cellar for No. 5, NW SW NE 32-19s-10w.

Slick, Pryor and Lockhart's Moran 2, NW SW NW 4-18s-10w, two locations north of the discovery well in the Stumps pool of northwestern Rice County, topped Pennsylvania Basal Conglomerate at 3218 feet and cemented seven-inch casing at 3228 feet to shut off badly caving hole. It is the fifth test for the pool which was recently given a pipe line outlet.

The Kessling pool in southwestern Rice County apparently was being extended two locations south by Herndon Drilling Company et al's Smith 1, NE NW SE 16-20s-9w. Top of the Arbuckle (Siliceous) lime was encountered at 3250 feet and the seven-inch casing was cemented at that point with total depth at 3256 feet. When the plugs were drilled operators had 1200 feet of oil in the hole in two and one half hours and were testing late in the week.

W. C. McBride Incorporated was awaiting acid reaction in its Whitright 4, CSL N½ SW 30-19s-1w, in the Garrett area of the Ritz pool of eastern McPherson County. The well has been flowing at the rate of about five barrels an hour from Mississippi chat at 2927 to 2970 feet. This part of the pool was first developed in the Viola lime and it was in this section that Viola lime production was discovered.

The Hilger pool of southeastern Reno County was extended three quarters of a mile to the northeast during the week with the completion of Rose Spring Drilling Company's Brauer 1, SW SW SE 4-26s-4w. Initial production after acid treatment was 553 barrels from Viola lime drilled to 4113 feet. The pool was discovered in April, 1934, when Stanolind Oil & Gas Company and Amerada Petroleum Corporation completed Hilger 1, SE SE NW 16-26s-4w, yielding 968 barrels initially from Viola lime topped at 4060 feet and penetrated seven feet.

Marathon Oil Company's Bontrager 1, NE NE NE 33-24s-5w, one half-mile west of the discovery well in the Yoder pool in east central Reno County, was drilling below 3925 feet presumably in Arbuckle lime with no oil showing. It topped Viola lime at 3797 feet, Wilcox sand at 3830 feet and at 3839 feet had 600 feet of water in the hole. Top of Arbuckle (Siliceous) lime was found at 3915 feet and water from 3920 to 3925 feet. A good showing of oil and gas was encountered in Mississippi chat from which production is obtained in the pool. It will be plugged back from 3925 feet, the total depth.

In the Stone sector of the Burrton pool, Phillips Petroleum Company's McElwain 1, C NW SE 10-24s-4w, topped Mississippi chat at 3319 feet,

EXTEND LAREDO POOL

Hutchinson, Kansas.—The Laredo pool of southwestern Reno County was extended late in the week when Shell Petroleum Corporation's Reece 2, C NL SW 11-26s-9w, approximately one-quarter mile northeast of the discovery well, flowed 310 barrels gross in one hour and 10 minutes after being treated with 1000 gallons of acid.

Prior to the treatment it had yielded 710 barrels in six hours. Production is from 23 feet of Viola lime topped at 4135 feet. The discovery well flowed 878 barrels in 24 hours on its initial test.

cemented seven-inch casing at 3325 feet and had a showing of oil and gas at 3345 feet. From 3355 to 3360 feet a small showing of water was encountered and from 3378 to 3385 feet a showing of oil. In the same area Shell Petroleum Corporation's Danton 2, C NW NE 10-24s-4w, produced naturally at the rate of about 20 barrels per hour and was to be acidized.

Rooks County had a new wildcat start during the week when Skaer Oil Corporation et al started moving in rotary equipment for No. 1, NE NE NE 28-10s-17w, three miles west of the town of Codell in the southeastern part of the county. Gulf Oil Corporation is reported to have taken some acreage in connection with the deal. Twelve miles northeast of LaCrosse in the northeastern part of the county Pryor and Lockhart et al had staked location for No. 1, SW NW NE 11-16s-17w, also a wildcat operation.

M. E. Worsley et al had completed cellar and pits for No. 1, NW NW NE 32-13s-25w, 16 miles southwest of Wakeeney in western Trego County.

In the southwestern part of Harper County, Marathon Oil Company was milling on a bit cone at 5007 feet in Zeller 1, C SW NW 17-25s-8w, just west of the town of Waldron in the southwestern part of the county. The last show of oil reported in the test was from gray sandy dolomite at 4875 to 4890 feet.

Seven and one half miles south of Pratt in south central Pratt County, Lario Oil & Gas Company et al's Lemon 1, SE SE NW 12-29s-13w, topped Viola lime at 4514 feet, had a showing of dead oil from 4526 to 4529 feet and were drilling ahead below 4545 feet.

Sumner County

The Churchill pool in eastern Sumner County had its second Kansas City lime well with the completion of Shell Petroleum Corporation's State 1, NE NW SW 25-21s-2e, an old well deepened from the Stalnaker sand. Top of the Kansas City was encountered at 2070 feet and penetrated to 2148 feet. After a treatment of 3000 gallons acid it pumped 1313 barrels in 24 hours and was making no water. Seven-inch casing was cemented at 2072 feet.

In the nearby Oxford pool which leads the state in potential rating Shell Petroleum Corporation's Rothwell 6, NE NE SW 14-32s-2e, topped the Simpson dolomite at 2811 feet and was treated twice with 8000 gallons of acid each time. After the treatment it flowed 1414 barrels of oil and 35 barrels of oil in three hours and was being plugged back to 2877 feet to shut off water. Its potential on the basis of this performance was fixed at 11,095 barrels.

Over the line in western Cowley County Crast et al had rig up for Taylor 1, NE SE NW 32-32s-3e, approximately three miles southeast of the Oxford pool. D. McKlesm et al had rig on the ground for Wallace 1, SW SE SE 10-33s-4e, one and one quarter miles west of production in the old Winfield pool of western Cowley County and Crast et al had spudded and shut down at Whitson 1, NE NE NE 20-33s-4e.

Sheedy et al were rigging up machine for Grand 1, C EL NE SW 4-25s-14e, eight miles west of Yates Center in western Woodson County.

Wildcat Produces

YOAKUM COUNTY TEST OPENS EXTENSIVE AREA

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

Midland, Feb. 28.—Honolulu Oil Corporation and Cascade Petroleum Company's Bennett 1, southeastern Yoakum County wildcat, proved capable of commercial production when given preliminary test from two feet of lime at 5090 feet after being inactive for five months pending the settlement of title difficulties. The well flowed by heads after the first run of the swab and later showed about 2000 feet of oil in the hole after bailing approximately six feet of cavings. Drilling was resumed Friday with cable tools to proceed to the lower section of the Dolmite lime horizon.

Reports indicate that the oil is of a higher gravity than the average grade produced in the north portion of the Permian basin and has a low sulphur content; however, the main pay zone is expected to yield a lower grade of oil and in all probabilities will be contaminated with sulphur.

It is the most important wildcat strike involving production in the Permian lime that has been scored in West Texas in a number of years owing to the fact that it opens up a vast territory heretofore rated as doubtful for production.

Initial efforts to determine the value of the Yoakum County wildcat from a production standpoint were undertaken February 27. The hole contained about 5000 feet of fluid. The well flowed approximately 80 barrels oil by heads after running the swab once. Bailer was lowered, but was halted about 60 feet off bottom, indicating possibilities of cavings having accumulated due to 434 feet of open hole.

The well is the first in the county to drill to main body of the Permian lime. It is owned 50-50 by the Honolulu Oil Corporation, Midland, and the Cascade Petroleum Company, headed by C. J. Davidson, Fort Worth. Location is at center of NE NE Section 678, Block D, John H. Gibson Survey, and on acreage farmed out by Texas Pacific Coal & Oil Company. The latter donated about 5100 acres out of its original block of 9600 acres.

It is the most isolated producer in West Texas, as it is about 42 miles northwest of the Means field, northern Andrews County, and 33 miles northeast of the Hobbs field, N. M.

The Yoakum County well logged first salt series at 2535 feet, and top of Yates sand at 3220 feet, with an elevation of 3557 feet. Lime section, equivalent to marker used in the Big Lake and Church and Fields areas, was recorded at 4661 feet, and main body of lime at 4820 feet. Minor gas showings picked up below the Yates zone attracted attention of operators, and resulted in considerable lease buying before prices advanced.

The oil saturated lime was reached at 5088 feet, and drilling was halted to 5090 feet late in September, 1935. Several weeks elapsed before 7-inch casing was cemented at 4656 feet. In the meantime outside parties clouded the title on the drilling site, and the owners elected to suspend further operations until all claims were settled.

An aggressive lease and royalty buying campaign has been waged by majors and independents in counties to the north and south of Yoakum County since last September.

Gaines County

Gaines County offers a promising outlook for production being uncovered about two miles northwest of Seminole, and on a direct trend between the Means field and the Yoakum County wildcat producer. W. T. Walsh, Harry Adams Corporation et al's S. J. Averitt 1 is exploring the Seminole structure, and have experienced repeated fishing jobs caused by numerous high pressure gas zones below the Yates sand. The hole is bottomed at 3955 feet. In the northwest portion of the county, E. M. Wahlenmaier, York & Harper, Inc.'s Jones 1, was drilling in hard lime at 5150 feet. Landreth Production Corporation has taken over a drilling block in southern Gaines County to drill W. H. Kirk 1, SWc Section 22, Block A-21, P. S. L. Survey. Lou Stogner et al originally announced plans to drill the test last November. Kirk 1 has been spaced 330 feet from section line to conform with demands made by one of the majors that bought acreage, but a wider spacing will be adopted by the Landreth Production Corporation if additional drilling takes place.

Sanolind Oil & Gas Company's J. E. Witcher 1, NEc Section 24, Block 43, T&P Ry. Survey, T-2-S, a south offset to Ector County wildcat producer completed late last year by Barnsdall Oil Company, swabbed 66 barrels oil on initial production test from lime at 4230 feet. It will be deepened, and shot. W. H. Dunning, Jr., et al have made location for a wildcat in northwestern Ector County on the H. E. Cummins 480-acre lease, NEc SE¼ Section 33, Block 45, T&P Ry. Survey, T-1-N.

Fleetborn Oil Corporation, Ardmore, Okla., has made location for a wildcat to be drilled on the F. C. Dodson 320-acre lease, SEc Section 13, Block 34, T&P Ry. Survey, T-3-S, north central Glasscock County.

Drilling obligations are involved in a new group of lease assignments made by owners of short term acreage in Winkler County to independents seeking an opportunity to explore semi-proved tracts. Numerous deals have been consummated in the county in recent months whereby large interests have farmed out leases a few months in advance of expiration of contract. Many independents are bidding for the opportunity to drill on favorably situated acreage, as lease assignments can be had on a sliding scale overriding royalty basis, or a bonus payable from production along with a nominal over-riding royalty.

Amerada Petroleum Corporation has assigned 160-acre lease in the Skelly-Halley area, southern Winkler County, consisting of the east one-half of east one-half of Section 25, Block B-12, P. S. L. Survey, to Eastland Oil Company, Fort Worth, for a bonus of $5,000, payable from one-fourth of the seven-eighths production interest. After the bonus is liquidated the former will be carried for one-sixteenth overriding royalty.

Illinois Oil Company, Dallas, has been assigned lease on the N½ NE¼ Section 38, Block B-5, P. S. L. Survey, south Kermit area, by Continental Oil Company for a bonus of $225 per acre, payable from one-fourth of the seven-eighths production interest, then a one-sixteenth over-riding royalty will apply for the life of the property. Harry Adams Corporation, Midland, obtained lease on the W½ NW¼ Section 95, Block A, GMMB&A Survey, situated immediately east of production in the north extension of the Gulf-O'Brien field, for a bonus of $8,000, payable from one-fourth of the net production.

Controlling interest in two shallow oil producing properties in the Pecos Valley pool, northern Pecos County, figured in deals made by independents recently. Union Oil & Mining Company is reported to have paid a cash sum and contracted to drill two free wells in acquiring three-fourths undivided interest in C. S. Messenger et al's W. Rand Jones 320-acre lease, Section 5, Block 9, H&GN Survey. Two completed wells on the property produce from the 1600-foot lime horizon. Joe Crump and Harry H. Watson purchased J. V. Massie et al's Iowa Realty Trust Company 320-acre lease, Section 21, Block 10, H&GN Ry. Survey, with two completed wells rated at 10 barrels daily each, for a reported consideration of $8,000.

Panhandle Failure

ORDOVICIAN TESTED IN HALL COUNTY, AND QUITS

Pampa, Texas.—Plugging orders have been issued for Phillips Petroleum Company's L. M. Hughes 1, situated on a large wildcat block in Hall County, southeast portion of the Texas Panhandle, after failing to develop production in drilling to 8017 feet, or 5792 feet below sea level. Originally scheduled to test the Canyon lime, or go to 6000 feet, it was carried to the Ordovician lime with negative results. However, the log will provide valuable geological data on a section of the district that has had very little deep exploratory work. Hughes 1 ranks second among deep tests in the Panhandle district, having succeeded Phillips Petroleum Company et al's J. C. Wilson 1, Moore County, which was drilled to 8012 feet in November, 1934. Alma Oil Company's Mollie Low 1, Childress County failure, located on the border of the Panhandle and North Texas districts, was drilled to 8223 feet.

In western Gray County, the Wilma Petroleum Corporation (A. F. Johnson and Egolf Brothers) developed a natural flow of 1200 barrels of oil and 3,000,000 cubic feet of gas when B. E. McKinney 1, SWc Section 163, Block 3, I. & G. N. Ry. Survey, tested at 3296 feet, or 13 feet below sea level. Claude Drilling Company, Fairfax, Oklahoma, is preparing to deepen its Gorenflo 1, NEc 80-acre lease, Section 186, Block 3, after flowing 330 barrels natural at 3240 feet. It will be deepened to about 3271 feet, or sea level depth.

Return of warmer weather has enabled Humble Pipe Line Company to resume work on connecting to leases in Gray, Carson and Hutchinson Counties in order to relieve Phillips Petroleum Company of about 2000 barrels of daily crude runs. The latter is the largest producer and purchaser of oil in the district, and has applied on a number of occasions to the railroad commission for relief on oil takings, as the surplus was diverted to storage. The company held about 3,017,000 barrels of Panhandle crude at the close of January. Humble Oil & Refining Company volunteered to absorb 2000 barrels daily, thus possibly averting a cut in the Panhandle proration allowable.

TESTING WILDCAT

Wichita Falls, Texas. — Production test was underway late last week on Olson Drilling Company, Gardner Petroleum Company et al's Southwestern Life 1, wildcat on the Preston anticline, Grayson County, after cementing 8 4/8-inch casing at 4426 feet, with the hole bottomed at 4430 feet, or 3663 feet below sea level. A slight show of gas was noted at 4429 feet while coring hard sand zone topped at 4424 feet. This wildcat is contracted to drill to the Ordovician lime zone, or 6000 feet, and last December lost section of drill pipe after drilling to 4670 feet. The hole was plugged back to 3535 feet, and successfully sidetracked junk. The original hole logged fine grained sand-bed at 4308-4482 feet, with gas and oil stain recorded in cores at 4441-4482 feet.

DRILLING PERMITS
East Texas leads in new wells, South active

Austin, Texas.—The Texas Railroad Commission approved last week permits for drilling 251 new wells in the state. While this was far below the number issued last week, it was still above the average of 200 per week for the year 1935.

East Texas had the most permits, 76. These included 31 permits in Rusk County; 29 in Gregg County; 12 in Upshur County; two in Cherokee County, and two in Smith County.

Southwest Texas approached East Texas with 73 new permits. There were 23 in Nueces County, 16 in Webb County, and 14 in Duval County. The Gulf Coast reported only 31 new locations, and East Central Texas listed eight.

West Texas operators filed 26 locations which included 12 in Ward County. There were 12 permits for new wells in West Central Texas and 20 from the Panhandle District. North Texas reported five.

GAS INCREASES

Fort Worth, Texas.—Gas production developed by Seaboard Oil Corporation's T. K. Rea 1, Hamilton County wildcat, from Marble Falls lime increased to 5,000,000 cubic feet daily when the hole was deepened to 2412 feet. A string of 8⅝-inch pipe has been cemented at the latter depth to bradenhead off the gas and proceed to the Ellenberger lime horizon, original goal set by the company. The well is located near the southwest corner of 320-acre lease, David Cook survey No. 30, and about 20 miles southwest of nearest production. Top of Marble Falls lime was logged at 2369 feet, with an elevation of 1380 feet.

OUTPUT DOWN

Pampa, Texas.—Natural gasoline production in the Texas Panhandle amounted to 27,211,800 gallons during January, with 49 casinghead gas and natural gas stripping plants in operation. Production was cut 618,450 gallons below the yield reported for December, 1935. Substantial reduction will likely be recorded when figures covering February operations are compiled, as a number of the plants engaged in stripping natural gas and without a market for the residue have reduced their throughput after unsuccessfully attacking the state's gas waste measure.

ORDOVICIAN DRY

West Texas gets two more deep tests

San Angelo.—Flow of hot sulphur water, rated at 500 barrels per hour eliminated Loffland Brothers, John I. Moore et al's L. S. McDowell 1, Glasscock County, from the list of West Texas tests seeking production from the Ordovician lime horizon. This well was drilled to 10,906 feet, and due to the porous nature of the formation below 10,883 feet had difficulty in maintaining circulation. It is credited with having reached the Ellenberger limestone, or lower Ordovician, thereby condemning the area for production in all known deep pay zones. A group of majors and independents formed a 5970-acre unit block to finance the well, which ranks seventh among the deep tests in the world.

The Ordovician lime is the projected goal of a test to be started shortly by Stanley A. Thompson, Fort Worth, and others, on a 39,000-acre block in Southwestern Pecos County. The block centers upon Blocks C and D, G. C. & S. F. Ry. Survey, and the location will be made on the Elsinore Cattle Company fee. The latter contributed lease on approximately 32,000 acres, and the remainder of the acreage was acquired by cash bonuses from the Allison and Montgomery ranches.

Operations have been started on a third projected Ordovician lime test in the Sand Hills area, Crane County. Gulf Oil Corporation's Waddell et al 1, located on the northwest nose of the huge structure, is pumping about 75 barrels of oil daily from the Simpson, or upper section of the Ordovician, after plugging back from 6450 feet to 6317 feet. It is pumping from the 5000-foot level, but the working barrel may be lowered to step up the crude yield. John I. Moore et al's T. C. Barnsley 1, C. SW Section 43, Block 32, P. S. L. Survey, located about eight miles southeast of the above deep producer, spudded early last week, with contract calling for a 6500-foot test.

Humble Oil & Refining Company's J. B. Tubb 1, near C NW NW Section 11, Block B-27, P. S. L. Survey, or about 3¾ miles southeast of the Waddell producer, was drilling near the 4000-foot level, according to late reports. The original pay zone near the 4200-foot level in the Sand Hills area will be tested, but it is understood that this test will proceed to the Ordovician. Sinclair Prairie Oil Company et al's Tubb 1, SEc Section 3, Block B-27, picked up a stray oil horizon in lime at 2962-90 feet, and bailed about 10 barrels oil daily with the hole bottomed at 3164 feet. The formation will be treated with acid to attempt to make a commercial producer, as the lease contract on the entire section is due to expire early in March. It was drilled for the purpose of perpetuating the lease with production in the 4200-foot lime.

NORTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
C. L. Abercrombie et al, Abercrombie-Taylor 2	*	1300
Cable Oil Co., Webb 8, blk 5	25	702
Fain-McGaha Oil Corp., Perkins et al 1, sec 11	*	1643
Harry Hines et al, Archer Co. 1-A	40	926
Huggins Oil Co., Ford 9	20	1002
W. T. Hutcheson, Jr., L. McCrory 1, sec 121	32	606
Madden et al, Dupriest 1, sec 2489	*	1477
Martin & Wilson, Wm. Coleman 1, blk 46	*	1115
Tom Minnich et al, M. Phillips 1	*	1219
Stuckey O&G Co., Ward Bros., 5, sec 1382	*	1075
COOKE COUNTY—		
J. N. Martin et al, Talbot 2	25	1611
F. W. Merrick, Inc., Knabe 20, blk 12	10	816
Knabe 21, blk 6	10	780
Schermerhorn Oil Corp., Hess 3	10	1204
JACK COUNTY—		
W. H. Hammon et al, G. C. Booth 3, sec 1	*	3139
MONTAGUE COUNTY—		
Barnsdall Oil Co., Cunningham 9	40	903
Bridwell Oil Co., F. E. Loy 3-B	68	1807
THROCKMORTON COUNTY—		
Ben F. Looney et al, Robinson 2	¶¼	412
WICHITA COUNTY—		
Conoco & Bridwell, D. L. Horton 17	*	275
P. H. Flynn et al, W. L. Scott-Davis 1, sec 15	*	2035
Luke Hodges et al, J. W. Aiken 1, sec 6	*	2200
J. E. Keller et al, W. T. McKinney 2, sec 22	2	816
WILBARGER COUNTY—		
John O'Neil et al, Waggoner Est. 4-B, sec 20	*	550
YOUNG COUNTY—		
R. Bullock et al, fee 1	*	462
Clark & Stilley, O. S. Perkins 5, sec 206	20	752
E. C. Reed et al, A. C. Daws 1, sec 1680	*	925
Solo Oil Co., O. B. Stowe 4, sec 2	25	1057
The Texas Co., G. B. Hamilton 1, sec 1480	*	1035
Jeffery 12-B, sec 42	68	744
Underwood Drlg. Co. & Campbell, Campbell 9-A, sec 1376	200	902
Campbell 17-C, sec 1376	35	898

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Dixon Creek O&R Co., W. M. Castleberry 6	490	3285
Kewanee O&G Co., M. S. Arnold 7	442	3270
Magnolia, E. Haggard 2	391	3291
Wilcox O&G Co., Coombs-Worley 38	720	3059
HUTCHINSON COUNTY—		
Holmes et al, J. L. Moore 4	651	3059
The Texas Co., T. D. Lewis 8	224	2977
T. D. Lewis 9	512	2972
MOORE COUNTY—		
Anderson-Kerr Pet. Co., V. W. Avery-Gulf 1	¶44½	3515
Shamrock O&G Co., L. Hill 1	¶46½	3554
WHEELER COUNTY—		
Magic O&G Co., Walker 2-A	¶4.2-30	2410
Palmer et al, J. W. Fuller 1	*	1645
Smith Bros. Ref. Co.-Hanlon & Buchanan, Harlan 1-D	¶24.6	2604

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BORDEN COUNTY—		
C. Ed. Hyde & Hugh G. White, W. L. Miller 1	*	3805
CROCKETT COUNTY—		
California Co., J. M. Shannon 4, Lse. 3	252	2540
GLASSCOCK COUNTY—		
Loffland Bros.-John I. Moore et al, McDowell 1	*	10,906
TOM GREEN COUNTY—		
Eugene Mays et al, Ike Funk 1	*	1454
JONES COUNTY—		
Thos. D. Humphrey, H. Dorsey 2	323	2066
PECOS COUNTY (Pecos Valley Pool)—		
Tex-Mex Pet. Corp., H. L. Lowrey 1	*	2377
PECOS COUNTY (Taylor-Link Field)—		
Clark-Cowden & Tucker, McKenzie 1	*	1654
UPTON COUNTY—		
Amerada, Lee R. Lane 4	350	2178
Breeding & Perry, J. F. Lane 2	875	2308
WARD COUNTY—		
Gulf, Hutchings 50	633	2774
Richardson Oils, Inc., Johnson-Sun 26-B	1315	2579
Rio Bravo Oil Co., D. Olcott 2	2951	2532
TP Coal & Oil Co., H. James 11	511	2535
WINKLER COUNTY (Sayre Field)—		
Amerada, L. Daugherty 1	567	2945
Atlantic O. P. Co.-J. D. Collett, Hendrick 3-J	808	3020
Mid-Continent Pet. Corp., Howe 7-A	1196	2978
Sayre Oil Co., Howe 5-A	1294	2978
Westbrook Oil Corp., Daugherty 4	839	3000

*Failures; †Junked; ¶Million cu. ft. gas.

Following Fault

SHOOTING CREWS BUSY IN NORTHEAST TEXAS AREA

Shreveport.—Considerable geophysical work and some leasing continued last week along the southwest trend of the Rodessa Fault in Cass and Marion Counties in East Texas. Sinclair Prarie has a seismograph crew working in Marion County, north of Jefferson. Atlantic Oil Producing Company has a shooting crew working in the John Collum Survey, Cass County and has two torsion balance units working in the southeastern part of Cass County in the same area where Amerada Petroleum Corporation has a seismograph crew at work.

In the Charles Ames Survey, Cass County, Mrs. Mamie Hammonds paid $200 per acre cash and an equal amount from production for the west forty acres of the 125-acre J. M. Belate tract. Eastern Texas Petroleum Company bought 45 acres in the Marcus Hill tract in the A. Douthit Survey, northeast of Lodi, paying $150 per acre.

Oil producers at Rodessa are reducing their runs to storage apparently feeling that they may be able to sell their back allowables later and feeling that the oil in the ground not being taxed is cheaper to keep there than to store and pay taxes upon.

Haynes Production Company has 55,000 barrels in storage and has completed one 55,000-barrel tank and one 80,000-barrel tank on the Otwell lease in Section 14-23n-16w. McAlester Fuel Company (J. G. Puterbaugh) is reported to have contracted to sell its excess above runs to the Griswold Refining Company which has completed a 5000-barrel refinery at Rodessa.

Magnolia Petroleum Company which is using pipe from an old line in West Texas for an eight-inch line 13 miles long from its Caddo trunk to Rodessa is at work on this line. Eastern Texas Production Company which will lay a 54-mile line to Rodessa from Longview, is hauling in pipe.

Fault Tests Start

TRINITY ZONE OBJECT OF WILDCATS

WEEKLY STAFF REPORT

Tyler, Feb. 28.—The Talco faulted structure in northwestern Titus County is slated to have a second well ready to test the Paluxy, or Upper Trinity sand zone, before the end of the week, and operations will be under way shortly on a third project for the area.

Due to title difficulties, Housh & Thompson, Inc., and R. L. Peveto's C. M. Carr 1, which filled 800 feet with oil when drill stem test was made February 7 at 4208 feet, will remain inactive until pending litigation is disposed of. Operations were halted after cementing 8¼-inch casing at 4166 feet.

Interest is now centered on W. C. Windsor et al's Hughes & King, located in the Orlander James Survey, eastern Franklin County and about three miles west by south of the prospective producer. Drilling began early last week and operations were under way below 2200 feet Thursday.

The Woodbine sand is considered unfavorable as a producing horizon, so the owners plan to continue to the Paluxy zone.

Territory lying about two miles due east of the Carr test will be explored by Humble Oil & Refining Company's Mary Grove 1, located 1300 feet from the north and center of east and west lines of 82.9-acre tract, Ben Jones Survey. It will probably be spudded during the current week and should reach the Paluxy horizon within 15 days.

The Trinity zone will likely be tested by the southeastern Lamar County wildcat started last week by J. A. Forester, Tulsa, and others on an 8500-acre block, including 950 acres contributed by Dilworth Hager, Dallas geologist. Location is on the J. F. Woodward 18¾-acre tract, J. W. Woodward Survey, about 1½ miles east by south of Minter. Contract calls for the completion of a 4500-foot test, but the owners have announced plans to explore the Trinity in the event the Woodbine fails to produce. Supporting geology indicates the presence of a fault in the Minter area, with the downthrow to the southeast.

In the event of a successful oil completion in the Talco area, operations will be started shortly thereafter on a Trinity sand test on a similar faulted structure centering upon the O. A. Wetmore Survey, Hopkins County. A number of failures have been drilled to the Woodbine in and near this survey and every available lease has been taken. Ownership is badly divided, but tentative arrangements have already been made for the drilling of a test should attractive production result from any one of the tests slated for the Talco area.

Negotiations are pending for the drilling of a test in the near future on the Quinlan block, Hunt County, held by C. Ed. Hyde, W. A. Moncrief and others. Stanolind Oil & Gas Company is making a geophysical survey of a 12,000-acre block in northeastern Hunt County held by J. M. Delaney, W. D. McBee and others.

In Smith County, Frank D. Staples, Edgar Hart et al's Luther Hale 1, T. C. Williams Survey, about 3½ miles northwest of Arp, tested water in the Woodbine, and has been abandoned at 4265 feet. O. G. Sanders et al's Winona State Bank (J. B. McClung), Samuel Epps Survey, one-half mile north of Friendship, is reported to have abandoned at 3912 feet.

DEEPER WELL FAILS

Hole plugged back to regular sand

Tyler, Texas.—Lower sand section showing oil below the first water table encountered by Stanolind Oil & Gas Company's Flake Williams 2-A, situated in the northwest portion of the East Texas field and about one mile north of Gladewater, produced water when tested last week and will be plugged back to the regular producing horizon for completion. Considerable interest was aroused by this well, as it was purposely carried below the normal oil zone and immediately below the first water sand series. A sand, carrying excellent oil saturation was logged at 3710 feet, or 3359 feet below sea level. The Woodbine section was cored to 3760 feet, where it showed water, then plugged back to 3718 feet after electrical formation surveying instrument corroborated log based on recovered cores. Casing was cemented above the lower sand to attain a decisive production test. Williams 2-A is located in Block 17, Wm. Goodwin Survey, Upshur County, and other wells on the lease produce from sand found near the 3630-foot level.

Stanolind Oil & Gas Company adopted a policy some months ago in having its drilling contractors core the Woodbine section penetrated. Although this extra coring incurs a nominal increase in cost of a completed well, the company expects to be more than compensated later through having positive data to guide plug back operations. Conservation rules of the commission requires wells making water to be plugged back, and many operators have been successful in curbing their water production by complying with the regulations. Engineers for Stanolind Oil & Gas Company are making an independent study of the water encroachment problem.

Completions in the field dropped below the normal volume the past week. There were 39 oil producers listed on the weekly tabulation, and two failures. Eight of

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Amerada & Deep Rock, Stovall 24 (193.86-ac)	4500	3640
Atlantic, Fair 16 (100-ac)	8000	3627
Fair 17 (100-ac)	7800	3626
Campbell, Tr. & Leo Oil Co., Wooley 3 (20-ac)	160	3680
Wooley 4 (20-ac)	150	3700
W. H. Gant-Garvin-Wegener, Harris 14 (394.58-ac)	240	3595
Genro Drlg. Co.-Carter, Wolford 1, (2-ac)	3500	3749
Howlett & Jones, Rettig 1 (10-ac)	*	3679
Manahan Oil Co., Deason 4 (10-ac)	600	3766
Marathon, Moores 30 (201.4-ac)	2500	3712
Royal Pet. Corp., Moore 3 (14-ac)	100	3610
J. B. Sneed & Co., Rollins 2-B (18.03-ac)	4500	3665
Stewart & Egan, Bateman-Sun 3 (25-ac)	5000	3771
Sun, H. A. Pace 29-B (637.45-ac)	750	3781
Ritch 7-B (54.2-ac)	2000	3723
Texas Co., W. W. Henry 21 (229½-ac)	2500	3658
KILGORE AREA—		
C. A. Everts Drlg. Co., Laird 6 (12-ac)	5500	3598
Gralenor Oil Co., King 9 (78.33-ac)	6000	3691
Groneman & Leath, Mayfield 1-B (2.26-ac)	240	3670
Gulf, Culver 26 (209.01ac)	4600	3570
Louisiana O. R. Corp., Jernigan 13 (111.04-ac)	8500	3618
Magnolia, Hale 9 (50-ac)	500	3610
Marcus Oil Co., Clayborn 8 (46.34-ac)	6000	3682
O. K. Producers, Wells 3-A (49½-ac)	100	3705
Patterson Drlg. Co., Brock 6 (9.02-ac)	9000	3675
J. C. Potter et al, Culver-Humble 2 (25-ac)	225	3536
Tom Potter et al, Crane 1, blk 139	1000	3596
Rushwold Oil Co., Crews-Gulf 1 (80-ac)	7200	3647
Sun, Morton 16 (336.24-ac)	650	3508
Texas Co., Elder 30 (139½-ac)	7200	3631
Tide Water, Strong 16 (113.1-ac)	8500	3661
LONGVIEW AREA—		
Arkansas F. O. Co., Lathrop 15-C (101.2-ac)	8000	3576
Atlantic, Burnsides 36-A (204.02-ac)	7000	3538
Humble & J. K. Wadley, Clements 11 (50-ac)	7000	3600
L. G. S. Oil Corp., McQueen 9 (94.47-ac)	3000	3592
Simms-Frank Buttram, Nicholson 19 (800-ac)	4000	3654
H. Smith et al, Harris 2 (20-ac)	15	3517
Stanolind, Castleberry 9 (77.44-ac)	2500	3585
Stanolind-Simms, Albright 12 (90.6-ac)	7000	3607
Sun, O'Byrne 7 (310-ac)	600	3736
Tullos 1 (118-ac)	*	3823
ANDERSON COUNTY (Cayuga Field)—		
Clark-Cowden Drlg. Corp., Wright 3	¶50	4110
Stanolind, Barton 3	3000	4082
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., Butler 5 (89.16-ac)	100	2994
Tunnell 7 (131.7-ac)	*	3020
LAMAR COUNTY—		
The North Texas Synd., Hanes 1 (40-ac)	*	1600
RED RIVER COUNTY—		
C. L. Abercrombie Co.-Harrison Oil Co., Knight 1	*	1002
SMITH COUNTY—		
Staples & Hart, Hale 1	*	4265
O. G. Sanders et al, J. B. McLung-Winona State Bank 1	*	3912

*Failures; †Junked; ¶Million cu. ft. gas.

the oil wells failed to flow when tested for initial gauges.

Sun Oil Company's E. A. Tullos 1, SWc of 118-acre lease, Wm. King Survey, Upshur County, and several locations northeast of a small producer, produced only a few gallons of oil with salt water when tested in sand at 3797-3823 feet. It has been abandoned. Top of sand was logged at a sub-sea depth of 3329 feet. Carter Drilling Company et al are credited with having drilled two failures simultaneously on the Dunbar tract, on the east edge of the field in northern Gregg County. Dunbar 3 failed to show for a commercial producer when shot with 30 quarts of nitro at 3622 feet, and further testing was halted by collapsed casing. Dunbar 4 showed very little oil when tested at 3660-3672 feet.

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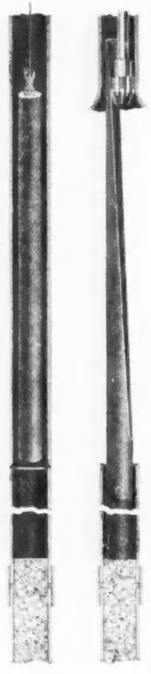
CASING SIZE



Shot going in hole to point near partial cut.

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Work at Peak

SOUTH TEXAS HAS OVER 350 RIGS IN OPERATION

WEEKLY STAFF REPORT

San Antonio.—South Texas development reached the high point of the year with 68 completions reported during the week. They included 42 oil producers for an initial flow of 20,657 barrels per day, two gassers for an initial flow of 65,000,000 cubic feet of gas per day and 24 failures, the deepest being 7080 feet.

Duval County led in completions, 21 oil wells making an initial flow of 12,095 barrels. Six tests were abandoned. Webb County was second with ten completions, two being gassers, four failures and four oil producers making 2440 barrels per day. Nueces County folllowed closely behind with nine completions, eight of which were oil wells making an initial flow of 4225 barrels per day.

The active list on operations showed 510 wells in the territory, this number included new locations staked during the week upon which some progress has been made beyond the actual staking, plus the completions for the week. The total shows better than 350 rigs actually running in the district, the largest number in history.

SAXET HEIGHTS

Corpus Christi.—Saxet Heights (Corpus Christi) field, Nueces County, was extended more than a half-mile northeast through the completion of D. H. Hawn's William Shely 1. The well is bottomed at 4092 feet, casing set to total depth and perforated at 4075-85 feet.

The Hawn well was flowing 400 barrels of fluid one fourth oil and remainder wash water through a quarter-inch choke and still cleaning late Friday.

The pressures were 50 pounds tubing and 100 casing..

It is located in the center of a nine-acre tract and is about 2200 feet south of the Southern Alkali Company property.

The importance of the extension is that it further widens the field into the small tract district bordering Corpus Christi on the west and brings about a tremendous amount of drilling on "postage stamp" locations.

Taylor Refining Company apparently extended the Saxet Heights field one fourth-mile to the northwest when it showed 500 pounds gas pressure on a four-minute drill stem test of sand at 4403-44 and was reaming to make a drill stem test of the oil sand topped at 4036 feet.

With the small tract drilling campaign in the Saxet Heights field, plus the work in the vicinity of the Clarkwood townsite, where several producing levels have been established, Nueces County work has reached the highest level in history.

Several key wildcats were commenced during the week in this county. Allen & McCormick's W. B. McBurnett 1, six miles southeast of the Clara Driscoll field, has spudded. It is 660 feet from the north line and 330 feet from the east line of Lot 2, Roberts & White subdivision of the Robert Schallert. It is on a block assembled by Lee Hager several years ago and is considered a hot geophysical prospect.

J. H. Coker and Lee Brothers Oil Company's A. J. Geistman 1 has been started in the northwest corner of a 60-acre tract in J. Ward Survey No. 316. It is approximately 1200 feet east and 660 feet south of Sherman Nelson's Buckholt, recently completed as a gasser spraying oil.

J. K. Culton and Republic Natural Gas Company are preparing to spud H. B. Baldwin et al 1-C, located approximately 6400 feet southwest of the discovery well of the Saxet Heights field. It is in the northwest corner of Block 13, J. C. Russell Farm Lots.

Refugio Refining Company's Weil 1, one mile east of the field, is drilling ahead below 4750 feet, headed to 5000 feet. Taylor Refining Company's Dunn 1, northwest of the field is down 3900 feet and should have the sand over the week-end.

Heep Oil Corporation's R. Svedlenak 1, 1½ miles south of the discovery well in the Taft field, San Patricio County, drilled to 6020 feet and is preparing to abandon. This is the third well in the immediate vicinity of the discovery to fail to produce. Esnes Oil Company (Smith et al) has made location for Britton 2 as a south offset, while Humble Oil Refining Company's Mayo 1, west offset to the discovery, is drilling

below surface casing. The company's offset to the north was a failure at 6352 feet.

Stanolind Oil & Gas Company's Floerke 1, four miles east and south of the discovery well is shut down for repairs at 5117 feet.

Benedum & Trees Oil Company is drilling two interesting widcats in San Patricio County. C. V. Jones 1, SE NW Section 65, Pauls subdivision, three miles east of White Point field, is moving in. E. H. Welder 2, located 3½ miles northeast of Sinton is down 1275 feet.

In Victoria County, four miles northwest of Victoria, Guiberson & Pettit's Wedemier 1 is coring at 5891 feet, having passed through the Conroe horizon topped at 5871 feet. It is reported to have shown little sand.

CONTINUE ACTIVE
Mirando district has 100 rigs running

Laredo.—No let up is in sight for the tremendously active Mirando district, where heavy producers are completed at depths ranging from 800 to 2800 feet. In excess of 100 rigs are running through this trend of Duval, Webb and adjoining counties with completions rapidly mounting.

Adequate allowables, favorable pipe line facilities, plus inexpensive drilling have contributed to the heavy amount of work now underway.

The new Hoffman oil production is being outlined with a series of tests along trend from the Loma Novia field to the production of that area. A dozen locations or active wells are underway in the immediate sector. This field, if it develops as expected, will provide many new locations. In addition, Lopez, Cole, Loma Novia and Seven Sisters fields still have many undrilled locations within the proven limits and complete definition of these have not been established. Likewise, Loma Vista, Piedra Lumbre, Hagist (northeast extension to Eagle Hill) and others along the trend are just starting their development. Only one Loma Novia sand producer has been completed east of the Seven Sisters field, hence this flank production likely will be further developed.

The whole situation simmers down to the fact that many companies are holding up on their development of some of the newer fields while development continues in the older ones. In many cases, the same companies hold spreads of acreage in each of the new areas.

Among the key wells are two wells in the Hagist area. W. C. McBride, Inc.'s E. R. Hagist 1, northern portion of the county, is swabbing at 2125 feet. Just south of this well, Marzo Oil Company's Hagist 2 is swabbing at 2119 feet.

Continental Oil Company's Sevier 8-A, located 2000 feet north of production in the Driscoll field, was in sand at 3460-65 feet and has drilled plugs. It is showing for a producer in the Government Wells sand.

Rogers & Rogers' Cuellar 1, one mile south of production in the Hoffman area, finally has been completed at 2872 feet. The well is showing considerable oil and a slight bit of salt water, the water believed to be the result of mechanical troubles.

DEEP CAMPAIGN
Balcones fault trend tests active and pending

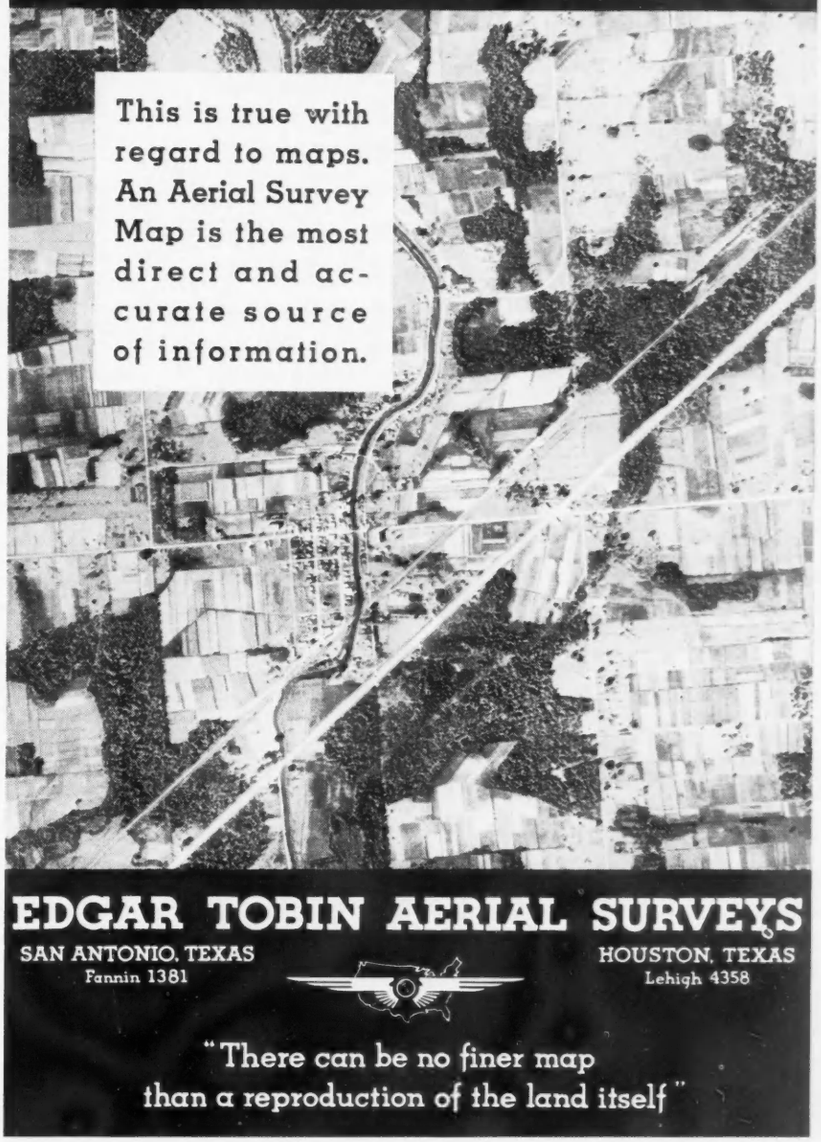
San Antonio.—A deep wildcatting campaign to Cretaceous chalks and limes below 5000 feet is in prospect for the Balcones fault zone as a result of Amerada Petroleum Corporation's success in the new Pearsall field of Frio County. Already, the field has been extended to approximately four miles in length and further development is expected to materially increase this figure.

Amerada Petroleum Corporation's Cory & McWilliams 1, Block 13, Arocha Survey No. 298, 2¾ miles southwest of nearest production, is being completed as a large producer at 5569 feet, after setting casing at 5420 feet. It is the second producer for the Austin chalk.

Late in the week the well was being swabbed, showing about 50 barrels of oil per hour, but practically no pressure. It has been showing a nice volume of fluid, filling 1300 feet with oil per hour after being swabbed to bottom in the open seven-inch casing. Continued swabbing is being resorted to in an effort to bring about sufficient kick to flow the producer.

Still another Austin chalk producer, nearly a half-mile north of the discovery well in this horizon, is in process of completion and is showing for a large pro-

A STRAIGHT LINE IS THE SHORTEST DISTANCE BETWEEN TWO POINTS



EDGAR TOBIN AERIAL SURVEYS

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ducer. The well has casing set at 5275 feet and is drilling and coring at 5371 feet, showing considerable kick and some oil.

West of the company's W. H. Smith 1, producing from the Buda lime at 5921 feet, Halff & Oppenheimer 6 topped the Austin chalk at 5394 feet, drilled to 5408 feet and set seven-inch casing on bottom. It will go into the formation after cement sets.

The company has started three wells between the southwest extension well and the main field. They are in the early stages of drilling and have not reached interesting depths. Thornton Davis et al's Halff & Oppenheimer 1, west of the Navarro sand production and east of the chalk production in the field, is coring at 4375 feet.

Zavala Deep Tests

Across the line in Zavalla County, an interesting play involving three deep tests is getting underway. Leona Oil Corporation's George 1 is setting 10-inch surface casing at 245 feet, while Frank Buttram's Whitecotton 1 is rigging up. Bay Oil Company, Montour Production Company and Selby Oil & Gas Company are preparing to drill John Wolff (National Bank of Commerce) 1, in or near Section 43, AB&M Survey. All wells are to go to 6000 feet or production.

No less than six other deep tests are reported to be in the making through this trend, several of which will be drilled subject to the sale of spreads of acreage.

Farther northeast, but in Medina County, W. C. Campbell's McNemeny, near Devine, is fishing after plugging back from 2892 feet to 2230 feet. It is attempting a production test at this level.

Bexar County's probable new field was still an unknown quantity during the week with Joe Deupree putting Russell 1, seven miles south of San Antonio, on pump at 1075 feet. The well had not been given a production test.

Following this trend through Atascosa, Wilson, Guadalupe, Caldwell, Bastrop, Gonzales and adjoining counties, a slight up trend in activity is evidenced. Failure to find a new field in this particular district, however, has dampened the hope for an immediate hot play through this sector.

An important test is attracting considerable attention in Burleson County. It is Walter Blumenthal's G. V. Crain 1, in the W. C. Pearce Survey, six miles northeast of the west corner of Burleson County and one mile from the Milam County line. It is fishing at 5032 feet. This well has top of the Midway at 2720 feet and the Pecan Gap at 4418 feet.

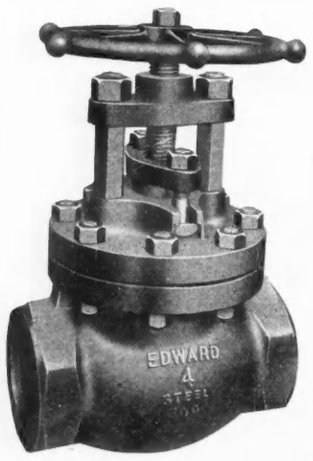
PRESSURE TEST

Deep gas to go into oil sand at Greta

Austin, Texas.—The Texas Railroad Commission issued last week an order authorizing E. M. Jones, San Antonio oil operator, to conduct a repressuring experiment in the Greta field. The order is of unusual importance because of the method by which E. C. Rach, petroleum engineer, proposes to repressure an oil sand without the use of a compressor.

Rach plans to withdraw gas from a sand at 5100 feet, flow this gas through a high pressure separator into a 2100-foot oil sand. Gasoline will be stripped at the separator. The project is made possible because of the higher pressures which are found in the deep sand. It is proposed that the initial input pressure shall not exceed 1070 pounds, and the order provides that the injection must cease when the virgin pressure of 970 pounds is reached in the 2100-foot sand.

Monthly tests are to be made to observe the increase in pressure and to assure the commission that the method of operation is not injurious to the field.



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HOUSTON, TEXAS

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Herbert Aid, W. A. Booth 1, W. B. Blanchard sur (W. Tuleta)	500	3928
Dirks Bros., J. R. Scott 1, 1190 ft s of sw corner J. Milina sur, but in Uranga gr	*	4775
Illinois Pet. Co., Imogene Hall 10-B, T. J. Butler sur (Dirks)	350	3895
Sun Oil Co., C. S. Page 5, Young sur (Dirks)	350	3825
BEXAR COUNTY—		
N. Anderson, Henry Fest 1, Rolen sur (Von Ormy)	3	712
Richcul Oil Co., C. H. Terrell 8, S. Jett sur (Von Ormy)	4	704
DUVAL COUNTY—		
Atlantic, J. F. Welder 11-A, sec 385 (Seven Sisters)	450	2514
J. F. Welder 4-B, sec 385 (Seven Sisters)	*	2530
J. F. Welder 6-B, sec 385 (Seven Sisters)	*	2505
J. F. Welder 1-C, sec 591 (Seven Sisters)	*	2694
Bridwell Oil Co., Bishop Cattle Co. 5, sec 76 (Loma Novia)	750	2615
Bishop Cattle Co. 11, sec 76 (Loma Novia)	325	2620
Buchanan & Blanco, J. F. Welder 8, sec 385 (Loma Novia)	1000	2214
Rodney DeLange, L. B. Moody 3, sec 76 (Loma Novia)	450	2735
Duval Oil Corp., L. B. Moody 12-B, sec 60 (Loma Novia)	750	2559
Claude Hamill et al, C. W. Hahl 4-C, sec 63 (Loma Novia)	750	2600
Highland Oil Co., M. C. Hubbard 19, sec 72 (Loma Novia)	350	2720
Humble Oil & Ref. Co., M. C. Hubbard 3-B, sec 83 (Loma Novia)	600	2792
R. Serna Jr, 4-B, sec 384 (Seven Sisters)	900	2510
Magnolia, J. Benavides 3, blk 8, O&S sub, sec 174 (Cole)	*	2887
Brennan Benavides 33, blk 352, Hale sub, Arispe gr (Cole)	400	2762
L. B. Moody 4, sec 60 (Loma Novia)	200	2558
Montour Prod. Co., M. C. Hubbard 5, sec 75 (Loma Novia)	100	2640
Pan American Prod. Co., J. F. Welder 1-a, sec 381 (Seven Sisters)	100	2451
Pitkin & Goldston, Bishop Cattle Co. 1, sec 57 (Loma Novia)	*	2852
G. C. Porter et al, Milano 1, nw corner sec 85 (1 mi e Loma Novia)	*	3011
Richardson & Kleiner, J. F. Welder 1, sec 381 (Seven Sisters)	800	2422
Rosan Oil Co., M. C. Hubbard 8, sec 84 (Loma Novia)	1000	2803
Santa Clara Oil Co., J. F. Welder 8, sec 384 (Seven Sisters)	1000	2490
J. F. Welder 21, sec 383 (Seven Sisters)	1150	2488
Shell, M. C. Hubbard 20, sec 77 (Loma Novia)	600	2763
Texas Co., Bishop Cattle Co. 10, sec 59 (Loma Novia)	120	2553
H. Wendt 16, sec 68 (Loma Novia)	300	2799
JIM HOGG COUNTY—		
French Oil Corp., E. Rodriguez 1, 4709 ft nwl, 330 ft nel sh M-1, Partition of Las Cuevitas gr.	*	2775
S. L. Miller Oil Co., Yeager 1, 150 ft el, 477 ft sl, blk 6, sur No. 20	*	4130
LIVE OAK COUNTY—		
Santa Clara Oil Co. (Atkins & O'Neil) R. H. Corbett 1, 2640 ft nwl and swl sec 2, Corbett sur.	*	4017
McMULLEN COUNTY—		
I. W. Taylor, H. L. Lark 1, blk 56, Scrugham sur (Jacob)	80	981
Witherspoon Oil Co., Calliham 1, blk 11, M. Hely sur (Calliham)	*	Icn.
NUECES COUNTY—		
Clarkwood Oil Co., Isensee 1, lot 2, Clarkwood Townsite, sec 404 (Saxet)	325	4419
Conroe Drlg. Co., McBride 1, Villareal sur (Saxet Heights)	375	4099
Conservative Oil Co., Hutchins 2, Sheppard Farm Lots No. 29 (Saxet)	†	4900
J. K. Culton, H. B. Baldwin et al 3, blk 20, Russell Farm Lots (Saxet Heights)	900	4089
Margaret Whelan 4, Villareal sur (Saxet Heights)	850	4090
Houston Oil Co., Rand Morgan 8, sec 7, Range 5 (Saxet)	425	4867
Marine Oil Corp., Charles Kaler 1, Villareal sur (Saxet Heights)	250	4090

Company, Well and Location	Init. Prod. Bbls.	Depth
W. D. Moore et al, W. G. Lackey 1, Rincon Del Oso League (Saxet Heights)	450	4089
Republic Natural Gas Co., Baldwin et al 3, blk 20, Russell Farm Lots (Saxet Heights)	650	4096
REFUGIO COUNTY—		
Hewitt & Daugherty, M. F. Lambert 21, blk 23, Hardwick sur (Greta)	500	5860
United Prod. Co., M. F. Lambert 22, Hardwick sur (Greta)	*	6538
SAN PATRICIO COUNTY—		
Esnes Oil Co. (Geo. E. Smith), J. L. Britton 2, sec 6, Third Addn., Taft Farm Lands (Taft)	*	4952
Humble O&R Co., J. W. Godwin 1, sec 23, Third Addn., Taft Farm Lands (Taft)	*	6352
Sun Oil Co., M. K. Edgar 2, sec 34, Fourth Addn., Taft Farm Lands (Plymouth)	*	7030
STARR COUNTY—		
A. F. Vannoy et al, H. Garza, Jr. 1, 150 ft sl and el blk 10, sh 26, por 70	*	910
A. J. Weyel, Wardner (Woods) 1, 431 ft sl and 244 ft el of 160-ac tr, por 84	*	2051
WEBB COUNTY—		
Mills Bennett, Maria L. Lopez 6, sec 112 (Lopez)	575	2238
B. de Perez 1, 330 ft sl and el s 1/3 of w½ sec 709, 4 mi sw Lopez	*	3504
Cole Pet. Co. Benavides 16, blk 10, sec 16, Cole sub, Arispe gr, owdd, former td 1715	*	2405
Benavides 93, blk 10, sec 7, Cole sub, Cuellar gr (Cole), pb and perf 2294-2300	¶50	3411
I. Howard et al, A. Lopez 1, sec 2350 (Lopez)	*	2317
Hunter Co., Inc., A. S. Billings 2, sec 113 (Lopez)	200	2159
Holland S. Reavis, C. H. Reavis 1, sw nw ne sec 684 (Carolina-Texas)	*	5527
Sierra O&R Co., A. S. Billings 6-A, sec 113 (Lopez)	1000	2188
Superior Oil Co., A. S. Billings 1, 330 ft sl and el sec 7, 1 mile w Lopez field, orig. rept abnd but reinstated, plugged back and perf csg 2246-51	¶15	3420
Superior Oil Co., W. C. Billings 5, sec 109 (Lopez)	600	2240
WILLIAMSON COUNTY—		
H. F. Goff, Chas. Patschke 1, 325 ft sl, 1270 ft wl of 100-ac tr, Foley sur	*	225
Taylor Ref. Co., H. Hanson 1, W. Byerby sur (Thrall)	*	1567
ZAPATA COUNTY—		
Nash & Clover O&G Co., A. P. Haynes 8, blk 7, Haynes sub, Cotas gr (Comitas)	60	900
Texas Co., Measles 83, C. Blanco gr (Escobas)	50	1237

*Failures; †Junked; ¶Million cu. ft. gas.

HIDALGO COUNTY
Phillips pays good price for acreage

Mission.—Mestenas structure, Hidalgo County, attracted further attention during the week when Phillips Petroleum Company purchased 416.63 acres of wildcat leases for a consideration reported to be $290,000, part cash and the remainder deferred oil payments. Only one producer has been completed on the structure, that being a 6700-foot Frio sand gasser spraying some high gravity oil.

The purchase was made from McCollum Exploration Company, which did the geophysical work on the block prior to the drilling of the first well. Half of the acreage involved in the deal is located east of Quintana Petroleum Corporation's Engelman 1, which is in turn four miles southeast of the discovery well. The remainder of the acreage is between the Quintana test and the discovery well.

The deal involved a cash payment of $20,000 plus an oil payment of $270,800. The drilling obligations, if any, were not made public.

Gulf Coast Extensions

ADD TO AREA OF FIELDS UNDER DEVELOPMENT

WEEKLY STAFF REPORT

Houston.—The Dickinson field, Galveston County, was extended 2500 feet southwest during the past week when Humble Oil & Refining Company's Maco Stewart B-3 came in from a new sand at 8445 to 8460 feet to establish a new producing level for the west side of the field.

The casing was perforated from 8445 to 8464 feet with 20 holes and a drill stem test made. The test was made one hour and 30 minutes through a quarter- and three-eighths-inch choke. The well flowed 30 percent oil, 30 percent mud and 40 percent salt water with a 625-pound pressure. The shut-in pressure was 780 pounds. The company recovered 19 thribbles of oil and six thribbles of salt water. The casing was cemented from 8445 to 8464 feet with 30 sacks of cement. The cement was redrilled and the casing perforated from 8445 to 8460 feet with 19 holes. A two hour and 20 minute drill stem test was made through a quarter-inch choke on top and bottom. The well started to flow in 50 minutes. It flowed 50 percent salt water at the rate of 30 barrels per hour with a 400-pound pressure. The shut-in pressure was 455 pounds. Two and half-inch tubing was hung at 8437 feet. On February 23, 1936, the well made 258 barrels of fluid through a quarter-inch choke, 139 barrels of net oil and 46 percent basic sediment and water. The well also made 1,900,000 feet of gas. The gas/oil ratio was 1380 to 1. Tubing pressure was 2000 pounds and casing pressure 2450 pounds. The oil tested 41 gravity. On February 24, the well flowed 210 barrels per day, 47 percent basic sediment and water, along with 2,800,000 cubic feet of gas. The gas/oil ratio rose to 19,400 to 1. Tubing pressure was 2000 pounds and casing pressure 2400 pounds. Seven-inch casing had been set at 8578 feet.

This extension test is located 3954 feet south and 577 feet west of the northeast corner of a 171-acre tract in the J. Sellers Survey. It is 2500 feet southwest of Maco Stewart A-2 and 3500 feet south of 3-A. It is also located southeast of Shaffer 1, which was abandoned below 9300 feet.

Humble Oil & Refining Company has made a new location for Maco Stewart A-5. It is 1150 feet south of the Dickinson Bayou and 250 feet from the east line of lease in the J. Sellers Survey.

Three Producers at Hastings

Three new producers were added to the Hastings field, Brazoria County, during the past week, extending the field slightly in three different directions. Also three wells were near completion at the end of the week, which probably will extend the field in different directions. Stanolind Oil & Gas Company has made two new locations in the field which are on the northwest side of the field.

Stanolind Oil & Gas Company's Kidd 3, on the northeast side of the field, was completed at 6075 feet flowing at the rate of 28 barrels per hour through a quarter-inch choke. Tubing pressure was 875 pounds and casing pressure 625 pounds. The well topped the oil sand at 5992 feet and the gas sand at 5844 feet, and seven-inch casing was set at 6030 feet. The well topped the Discorbis at 5150 feet, Heterostegina at 5510 feet and the Marginulina at 5570 feet. The well is located in the A.C.H.&B. Survey No. 2.

The same operator's Cannon 2, on the north side of the west part of the field, H.T.&B. Survey No. 36, was finaled at 6050 feet flowing at the rate of 625 barrels daily. The well was flowing through a quarter-inch choke with a tubing pressure of 825 pounds and casing pressure 850 pounds. The oil sand was topped at 5892 feet. The test topped the Discorbis at 5100 feet, Heterostegina at 5340 feet and the Marginulina at 5520 feet. The well is an east offset to Humble Oil & Refining Company's Nelson 1.

Stanolind Oil & Gas Company's Autrey 2, H.&T.B. No. 37 Survey, on the southwest side of the field, was completed at 6080 feet, making 111 barrels in four hours. The oil was flowing through a quarter-inch choke with a tubing pressure of 650 pounds and casing pressure 800 pounds. Seven-inch casing was set at 6030 feet.

The same company's Autrey 1, one location extension to the south on the western part of the field was waiting on cement at 6080 feet, after setting seven-inch casing at 5933 feet. The well is a south offset to Stanolind Oil & Gas Company's Berger 1, in the H.&T.B. Survey No. 37.

Humble Oil & Refining Company's Cannon 3, west offset to Cannon 2, H.T.&B. Survey No. 36, was waiting on cement at 6050 feet in oil sand. Seven-inch casing was set at 5960 feet. Top of the oil sand was found at 5976 feet. If this well is a commercial producer it will extend the field one location west.

Stanolind Oil & Gas Company's Shaw 4, H.&T.B. Survey No. 36, west offset of Shaw 3, and on the southwest side of the field, was waiting on cement to set at 5715 feet at the end of the week. Seven-inch casing was set at 5715 feet after drilling through oil sand.

Stanolind Oil & Gas Company made two new locations on the flanks of proven production during the past week. Droegen-

yer 1 is 333 feet north and 330 feet west of the southeast corner of a 40-acre tract in the H.&T.B. Survey No. 36. The same operator's Brown 1 is 825 feet from the east line and 330 feet from the south line of a 50-acre tract in the H.&T.B. Survey No. 29. It is a north offset to Humble Oil & Refining Company's Nelson 2.

South Houston Field Active

After being quiet for some time the South Houston field, Harris County, is now becoming active. Stanolind Oil & Gas Company's Griffin 1, south offset to Diadem Oil Company's Dean 1, western extension test, was swabbing at the end of the week at 4875 feet after setting 7⅝-inch casing at 4830 feet in oil sand, which was topped at 4835 feet.

The same company's Drilling District 25, 750 feet northwest of Drilling District 26, H.&T.B. Survey No. 5, was waiting on cement at the end of the week after setting seven-inch casing at 4616 feet, with the bottom of the hole at 4775 feet in oil sand.

Stanolind Oil & Gas Company's Drilling District 5, a work-over, which was completed some time ago around 3800 feet, was drilled deeper to 4780 feet and 5½-inch casing set at 4764 feet. At the end of the week, the well was flowing into the burning pits.

Showers and Moncrief have made a location in the South Houston field. G. S. Vallar 1 is in the center of Blocks 51 and 62 in the South Houston Garden Block 7, being in the H.&T.B. Survey No. 6. The operators spudded on February 16 and set 10-inch casing at 540 feet.

Turtle Bay Extended

The Turtle Bay field, Chambers County, was extended west during the past week when Stanolind Oil & Gas Company completed its Cooper 1 for 118 barrels daily through a quarter-inch choke with a tubing pressure of 100 pounds and casing pressure of zero. The operators have had considerable trouble with the hole as it made salt water on several production tests. The hole was drilled to 6630 feet in salt water sand, plugged back to 6611 feet and casing set. The test is located 466 feet from the south and east lines of a 140-acre tract in the S. Burney Survey. It is a west offset to the discovery well.

Black Gold Petroleum Company's Barrow 1, on the Jackson Ranch prospect, R. Barrow Survey, Chambers County, was drilling ahead in shale at the end of the week at 7835 feet in shale. The well is reported to have had several showings of oil. The well topped the Large Discorbis at 7160 feet, Regular Discorbis at 7342 feet and the Heterostegina at 7618 feet.

The Anahuac field, Chambers County, gave indications of being extended one location west during the past week when Humble Oil & Refining Company's Hebert Broussard 4, H.&T.B. Survey, Section 59, and a west offset to No. 3, drilled oil sand at 7083 feet, and set seven-inch casing at 7042 feet, after topping the oil sand at 7046 feet.

The same operator's Middleton 14, H.&T.C. Survey, Section 58, was preparing to set casing at the end of the week after drilling oil sand. The well was down to 7082 feet in oil sand after topping the formation at 6886 feet.

Hearing on Conroe

A notice has been received by the operators in the Conroe field, Montgomery County, that the Texas Railroad Commission will hold a hearing in Houston, March 10, 1936. The notice reads:

"It is hereby ordered that notice be and the same is hereby given to all interested parties that the Railroad Commission of Texas will at 10 o'clock a.m., Tuesday, March 10, 1936, at its hearing room in the capitol at Austin, Texas, take up for hearing the above numbered and entitled cause for the purpose of considering the advisability of granting certain wells in this field (which wells are producing from the Upper Cockfield formation) 'special allowables' by reason that these wells make large percentages of water; and, for the further purpose of determining whether or not special rules, regulations and orders shall be adopted for the prevention of waste in the Conroe field in Montgomery County, Texas.

"Pursuant to said hearing the commission will enter such rules, regulations or orders as in its judgment the facts presented at said hearing may justify."

On the southeast side of the Conroe field, West Production Company abandoned its Foster Lumber Company 4, during the past week at 5816 feet. It was reported that the well would be drilled to 10,000 feet. The well topped the Hockleyensis at 4697 feet, Operculina at 5447 feet and the Cockfield at 5476 feet. The well is located 466 feet north and 466 feet west of the southeast corner of the T.&N.O. Survey No. 4.

Wm. Thompson et al's J. B. Scott 1, F. Wheeler Survey, Montgomery County, was abandoned during the week at 2533 feet, after plugging back from 3674 feet. The well had several showings of oil and gas in the Hockleyensis and Cockfield sands.

In San Jacinto County, Cockburn Oil Corporation and Temple Hargrove's K. Moore 1, J. F. D. Rumayor Survey, was abandoned in salt water sand in the Cockfield formation at 5053 feet. The salt water sand was found at 4811 feet. The well topped the Cockfield at 4754 feet. Elevation is 73 and 79 feet.

The Pickett Ridge field, Wharton County, was being extended approximately 900 feet west and south during the past week when The Texas Company's Pierce Estate A-10 was running tubing to complete in oil sands at 4705 feet. The well set seven-inch casing at 4705 feet and a production test will be made. The test is located in the I.&G.N. Survey No. 39.

The Texas Company has made location for Pierce Estate B-1, on its third block taken from the Pierce Estate some time ago. The well is located 4200 feet north, 61 degrees 48 minutes east and 3267 feet north and 32 degrees eight minutes west from the southwest corner of the lease in the A. H. Pierce Survey, or E.T. R.R. Survey No. 8. The well is approximately three miles southwest of the Withers field and only a short distance from Pure Oil Company's E. Paige 1, which is now shut down at 7676 feet installing heavier equipment to drill deeper.

COAST LEASE

Austin, Texas.—Awards of contracts for leases on state lands in Galveston Bay, Chambers County, were announced by State Land Commissioner J. H. Walker last week.

The awards covered 44,680 acres, for which purchasers paid $264,450 in cash bonuses. In addition, oil payments totaling more than $15,000,000 were included in these contracts.

Humble Oil & Refining Company bid on 34 tracts, which included approximately 24,000 acres. Bids included oil payments ranging from $65,000 to $1,135,000.

Salt Dome Oil Company was awarded leases on 8 tracts for each of which it paid a cash bonus and an eighth royalty. R. H. Morrison, of Dallas, obtained leases on 13 tracts, for which he paid cash bonus and an eighth royalty, and E. W. Gammage of Houston, successful bidder on four tracts, paid $1,937.50 bonus and $75.00 an acre oil payment.

Four tracts went to C. R. Wharton of Houston. Each of these contain about 640 acres, and a small bonus was paid for each.

Amelia Extension

FIELD MAY PRODUCE MORE THAN TWO MILES TO NORTH

Houston.—Evidence was shown February 27, 1936, that the Amelia field, Jefferson County, may be extended over two miles in a northwesterly direction. Glenn H. McCarthy's Longe 1, more than two miles northwest of Humble Oil & Refining Company's Langham 1, the discovery well, made a drill stem test in the Frio formation from 6052 to 6118 feet and showed oil, gas, mud and salt water.

At the end of the week the operator was coring ahead at 6198 feet in sandy shale after coring more salt water sand. The well will be carried down to the regular pay horizon, which was found in the discovery well at 6778 feet. The well is running over 250 feet higher than the discovery well and should have reached the pay sand over the past week end.

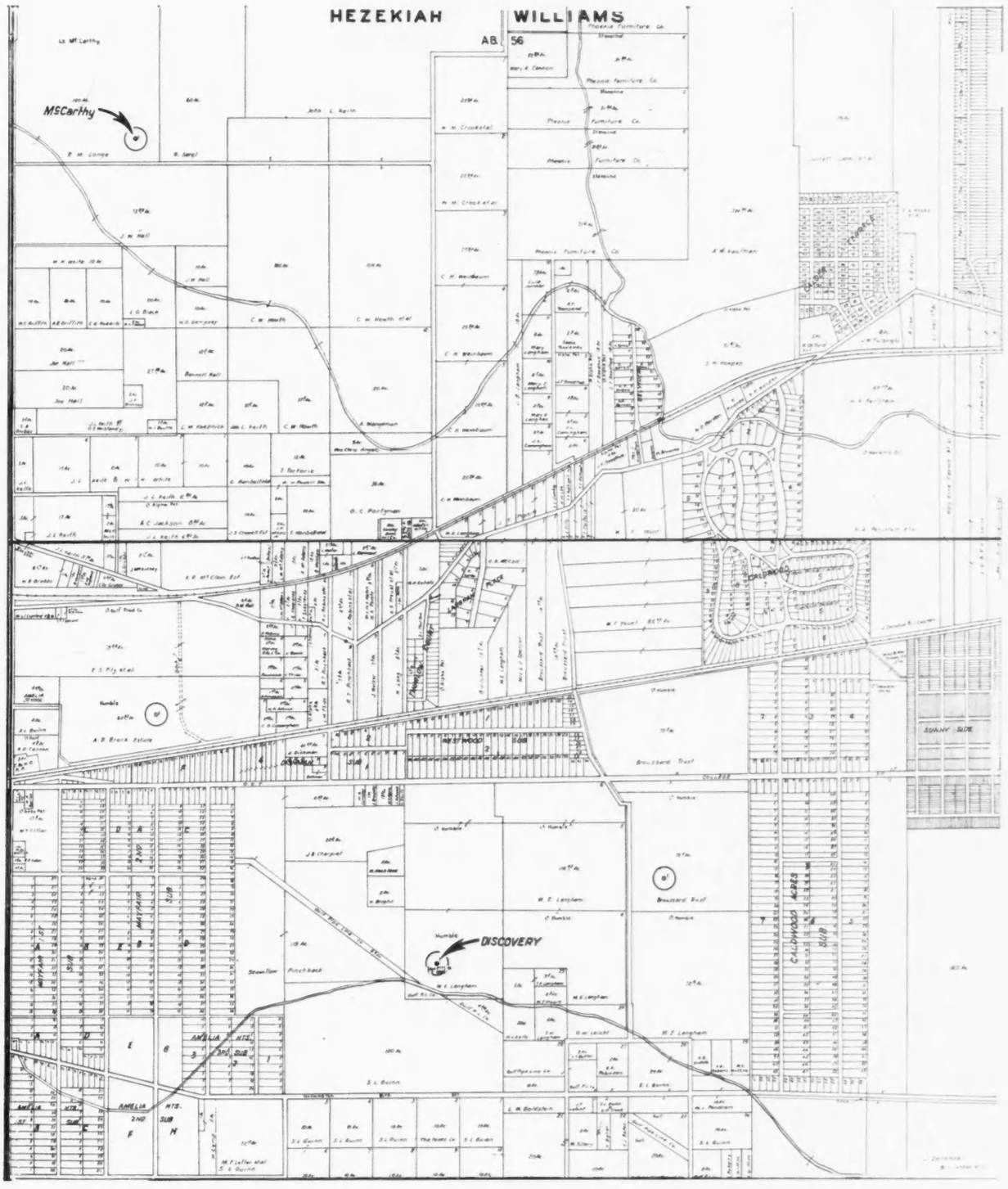
The drill stem test which was taken from 6052 to 6118 feet was unsuccessful, as the tool slipped and a true test was not made of the sand. The tool was open from four to five minutes, but after slipping it was closed. After breaking down 30 stands of drill stem, the gas in the hole kicked the mud out on the thirty-first stand. In the 30 stands the operator recovered oil, gas, mud and water with a slight brackish taste. However, this brackish taste was in the lower section of the drill stem. No free oil, or water, was recovered. The different estimates on the amount of oil which was in the mud was from

five to 20 percent. The test was made through a quarter-inch choke on top and a three-eighths-inch on bottom.

Should this well become a commercial producer, it will establish the second major extension to proven territory by Glenn H. McCarthy, Inc. The operators were successful in extending the Anahuac field, Chambers County, when R. M. White 1 came in July 21, 1935. The same tactics were employed at Amelia as at Anahuac.

Not only does the showing of oil and gas indicate that the well stands a good chance to become a producer, but geological markers in Longe 1, compared with those in Humble Oil & Refining Company's Langham 1, the discovery well, shows that the former test is running considerably higher structurally than the latter test. Also Longe 1 has encountered the same sands as the discovery well, which showed traces of oil and salt water before it was finally completed 400 feet in the Frio formation.

According to the geological markers in the wells completed in the field, Glenn H. McCarthy's Longe 1 is running over 279 feet higher than Lang-



Amelia area, showing discovery well and Glenn H. McCarthy's test which threatens a two-mile extension. Two tests not shown on this map were failures a little more than two miles west of the discovery well. (Map courtesy Gulf Coast Engineering Company.)

ham 1 on the Marginulina formation, and approximately 124 feet higher than Miller 1, which was abandoned at 6470 feet before reaching the pay sand found in Langham 1. It is shown above that Humble Oil & Refining Company's Miller 1 was the highest well in the field before Glenn H. McCarthy started operations. Glenn H. McCarthy's Longe 1 should pick up the main producing sand within the next 300 or 400 feet, and if it does, it may start a large drilling campaign in the new field.

Listed below are the geological markers on the wells completed to date in the Amelia field.

	Miller 1	Willerton 1	Langham 1	Longe 1
Discorbis	5400	5660	5496	5467
Heterostegina	5767	6008	5922	5591
Marginulina	5950	6222	6105	5826
Frio	6150	6375	6350	?

Note—Miller 1, Willerton 1, and Langham 1 are Humble operations; Longe 1 is Glenn H. McCarthy operation.

Longe 1, W. Williams Survey, has been the center of interest on the Texas Gulf Coast since it was spudded in around February 10. Operators have been watching the well closely to see if it duplicates the R. M. White 1 at Anahuac. Longe 1 was drilled on farmed-out acreage of Stanolind Oil & Gas Company. Glenn H. McCarthy made a deal with the Stanolind Oil & Gas Company which did not wish to drill in the area. The northward well has become one of the most important tests along the Texas Gulf Coast.

Glenn H. McCarthy, president, and M. T. Halbouty, chief geologist and petroleum engineer for the company were responsible for the location of Longe 1. The company has extended the Big Creek field, Fort Bend County; Conroe field, Montgomery County; Anahuac field, Chambers County.

Surrounding Glenn H. McCarthy's Longe 1, Stanolind Oil & Gas Company has a block of approximately 4500 acres which was acquired from Yount Lee Oil Company when the former acquired the latter company's stock some time ago. No doubt if Longe 1 becomes an oil well, Stanolind Oil & Gas Company will start immediate development of its holdings in the area. Humble Oil & Refining Company will also start development northward.

Seven miles north of Longe 1, operators are staging an exciting lease play. Shell Petroleum Corporation, the Texas Company, Gulf Oil Corporation, Stanolind Oil & Gas Company, Sun Oil Company, Humble Oil & Refining Company and a number of independent oil companies are active in the latest play.

On February 26, 1936, Humble Oil & Refining Company's Langham 1 flowed 86.6 barrels in 4½ hours through a three-sixteenths adjustable choke, with a tubing pressure of 975 pounds and casing pressure of 1250 pounds. The same operator's Broussard 1, east of the discovery well, was drilling in shale at 2638 feet at the end of the week. Humble Oil & Refining Company's Miller 1, located 466 feet out of the southeast corner of Block 1, Garden Villas Subdivision, Savery Survey, was drilling at 250 feet. The well is located approximately 1850 feet north of Miller 1, which was abandoned at 6470 feet, and probably would have been the discovery well for the field had it been carried on down a few hundred more feet before being plugged. Humble Oil & Refining Company has received an extension of time on drilling Brock 1, which is north of the discovery well. Brock 1 is 1394 feet from the east and west line and 506 feet from the north and south line of a 64.52-acre tract or approximately 2350 feet south of the north line and 1925 feet east of the west line of the C. Williams Survey.

Arguments for spacing and other development practices in the new Amelia field were heard by the railroad commission in Beaumont February 28, and the commission will render its decision in about three weeks. The meeting was called to order by Chairman Ernest O. Thompson, who made an open address in regard to Federal Co-Ordinator Eastman's proposed consolidation of the railroads by legislation now pending in Washington.

Over 500 people attended the hearing, with the majority representing some oil company or individual who held acreage in or near the new field. Humble Oil & Refining Company and Stanolind Oil & Gas Company had its legal, geological, and engineering departments on hand, and both companies are fighting for a 20-acre spacing rule. For the opposing side were the land owners, county officials and other interested parties who were holding out for a smaller spacing unit and more wells.

The Houston Geological Society has named the new Amelia area the West Beaumont field. The discovery well is located at the little town of Amelia and is four miles west of Beaumont. It appears that the field either should be named for Beaumont or Amelia, with preference to the latter. It has been the policy of the society to name the new oil fields after the nearest town.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBERS HILL—		
Stanolind, Chambers 31	135	5380
BATSON—		
John Deering, Whitley 1	*	5060
BIG HILL—		
Stanolind, S. W. Pipkin A-2	*	6698
BRYAN MOUND—		
Texas Co., Freeport Sulphur Co. 2	*	4915
CONROE—		
West Production Co., Foster Lbr. Co. 4	*	5816
DICKINSON—		
Humble, Maco Stewart B-3	210	8460
ESPERSON—		
General Crude, Halvaty 1	*	8926
HASTINGS—		
Stanolind, Autrey 2	672	6080
Cannon 2	624	6050
Kidd 3	672	6075
HIGH ISLAND—		
Stanolind, Mars McLean C-6	80	4458
HUMBLE—		
Texas Co., Fee 50	*	3526
LIVINGSTON—		
Hawkeye Oil Co., Nelson 2	50	4248
LOUISE—		
Pure, Jones 1	¶2	5170
MANVEL—		
Texas Co., Belcher A-13	*	4303
Houston Oil Field Association B-20	510	5145
MARKHAM—		
Harrison & Abercrombie, Kountz 6	450	4106
RACCOON BEND—		
Humble, Bellville School Land 10	288	4152
THOMPSON—		
Gulf, Booth A-28	*	5460
TOMBALL—		
Amerada-Stanolind, Nelson 4	144	5593
Humble, Tomball Townsite 9, well 1	564	5592
Sun, Metzer 5	324	5559
TURTLE BAY—		
Stanolind, Cooper 1	118	6625
MONTGOMERY COUNTY—		
Wm. Thompson et al, J. B. Scott 1, F. Wheeler sur	*	3674
SAN JACINTO COUNTY—		
Cockburn Oil Corp., K. Moore 1, J. F. De Rumayor sur	*	5053

*Failures; †Junked; ¶Million cu. ft. gas.

New Producing Sand

SHALLOWER FORMATION IN JEANERETTE FIELD SHOWS OIL

Lake Charles.—A new producing sand was discovered in the Jeanerette field, St. Mary Parish, during the past week when Herton Oil Company's Roane 2, 825 feet south of the discovery well, Section 40-13s-9e, made a drill stem test from 6663 to 6665 feet and showed clean 36.5 gravity oil. This new sand is approximately 800 feet shallower than that found in the discovery well. The drill stem test from the above depth within 15 minutes showed 42 stands of 36.5 gravity oil through a quarter-inch choke on bottom and a three-eighths-inch choke on top. The well also showed a good gas pressure. Casing will be set to test this sand.

On an electrical logging device the well showed nine ohms, which indicated the well should produce. If it proves successful it will prove up the second sand and will be the second well to be completed in the field. Herton Oil Company's Roane 1 was the discovery well and is producing from 7598 feet. During the past week the discovery well averaged 481 barrels per day through a quarter-inch choke.

The company made a drill stem test from 6063 to 6068 feet which showed 20 stands of salt water with no pressure. The test was made in 15 minutes through a quarter-inch choke on top and bottom. The well had sands showing oil from 6048 to 6058 feet.

Along with the discovery of a new sand in the Jeanerette field, Tide Water Oil Company has evidently discovered a new sand in the St. Martinsville field, St. Martin Parish. At the end of the week this operator was plugging back to sidetrack after sticking the drill pipe in Smedes 2, 660 feet south of the discovery well, which tried to blow out at 8714 feet in the Oligocene formation.

The well drilled into a sand at 8700

feet and was preparing to test when the well tried to get away. Heavy mud was pumped in to kill the flow. Tide Water Oil Company discovered this field some time ago when Smedes 1, Section 57-11s-6e, was completed at 5582 feet for a nice producer that has made over 80,000 barrels of oil since its completion.

The interesting thing about the discovery well was that it was expected to carry the test down to 9000 feet. The 5582-foot sand was a "gift" and was not expected. If the operator's Smedes 2 proves as a producer it will stimulate interest in this field.

Wildcat Tops Salt

Jefferson Lake Oil Company's Lake Pigneur 274, Jefferson Island dome, Township 12 South, Range 5 East, Iberia Parish, topped salt at 8480 feet during the past week and drilled in the formation to 8680 feet. The hole will be plugged back to 8400 feet and a test will be made of sands found from 8458 to 8475 feet which showed oil. During the previous week it was stated that the operators would drill the test on down until salt was struck, and then plug back to test the sands. On an electrical logging device the well showed seven ohms. These sands, along with sands shallower, were tested some time ago but showed salt water. If the well proves a commercial producer it will add a new field to the list of producing areas in the Louisiana Gulf Coast.

New Sand at Garden Island

A new producing level was found in the Garden Island Bay field, Plaquemines Parish, during the past week when The Texas Company worked over its Garden Island Bay 17, and completed it from a shallower sand than that which produces in the discovery well. The hole was plugged back to 4800 feet, casing was perforated from 4615 to 4644 feet with 70 holes and a drill stem test made. The test was made in 10 minutes, and in nine minutes the well made 14 stands of oil, eight stands of mud and also showed a 500-pound pressure. The casing was again perforated from 4552 to 4590 feet with 97 holes, and a drill stem test was made in 10 minutes through a quarter-inch choke. The test showed 20 stands of oil, 1½ stands of oil and sand, and a 50-pound pressure. The well was then completed flowing at the rate of 1067 barrels of 39 gravity pipe line oil through a three-eighths-inch choke. Tubing pressure was 570 pounds.

The well was originally drilled to 5527 feet in salt, with the top of the formation found at 5516 feet. The hole was plugged back to 4968 feet and the casing was perforated from 4885 to 4903 feet and a drill stem test proved the well for an oil producer. Seven-inch casing was set at 4977 feet, and after perforating the casing the well came in flowing 295 barrels daily of 38.4 gravity oil through a three-eighths-inch choke. The discovery well was completed in sand from 4913 to 4927 feet.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GARDEN ISLAND BAY—		
Texas Co., Garden Island Bay 17 (wo)	1067	4800
GILLIS—		
Union Sulphur, State 17	500	6757
GUEYDAN—		
Pure, Alliance Trust 6	*	9545
LAKE BARRE—		
Texas Co., State Lake Barre 23	366	3790
LEESVILLE—		
Texas Co., L. L. E. Leesville 41	1858	4311
SULPHUR—		
Union Sulphur, Fee 819	650	4260
TEPETATE—		
Continental, D. J. Miller 1	408	8325

*Failures; †Junked; ¶Million cu. ft. gas.

Extension Shows Salt Water

Union Sulphur Company's Castle 6, midway between the Gillis and English Bayou field, Calcasieu Parish, recently made a drill stem test at 6094 feet and showed salt water. At the end of the week the operator was drilling ahead below 6112 feet in shale. A 20-minute drill stem test from 6094 to 6112 feet showed 19 thribbles of salt water with no pressures. The test was made through a quarter-inch choke on top and bottom. The well is located 426 feet east and 574 feet north of the SWc SE¼ NE¼ of Section 14-9s-8w.

The test has had several showings of oil.

In the Tepetate field, Acadia Parish, Continental Oil Company completed its D. J. Miller 1 during the past week. The well was drilled to 8325 feet in oil sand with the top of the sand found at 8276 feet. Five-and-three-eighths-inch casing was set at 8325 feet. The casing was perforated from 8303 to 8313 feet and 2½-inch tubing was hung at 7300 feet. The well came in at the rate of 276 barrels in 16 hours through a quarter-inch choke. Tubing pressure was 2400 pounds and casing pressure 2500 pounds.

Wildcat Cores Oil Sand

The Texas Company's St. Martin Land 8, Henderson Prospect, Section 9-8s-7e, St. Martin Parish, was drilling ahead at 5989 feet in water sand at the end of the week, after coring more oil sand at 5972 feet. The oil sand was found from 5972 to 5975 feet. This is the second oil sand to be cored in this wildcat. The first sand was found from 4900 to 4904 feet.

In the Roanoke field, Jefferson Davis Parish, Shell Petroleum Corporation's Carter 2 gave indications of extending the producing limits of the field in the northeasterly direction. The well at the end of the week was drilling in sands showing oil at 8680 feet.

A drill stem test was made from 8505 to 8517 feet. The test was completed in five minutes through quarter-inch chokes on top and bottom. The well made 10 feet of distillate and 50 feet of mud with a 400-pound pressure. A sand was cored showing oil from 8507 to 8509 feet and from 8652 to 8660 feet.

Gueydan Deep Failure

Pure Oil Company's Alliance Trust 6, Gueydan field, Vermilion Parish, was abandoned during the past week at 5722 feet after plugging back from 9545 feet. The company drilled over two years on this test and it is reported that more than $500,000 was spent in drilling the test. The well had several showings of oil but drilled into heaving shale. This formation was battled for some time and special equipment and muds were used in combating the shales.

The well had showings of oil from 8551 to 8560 feet. At 8847 feet the Miocene formation was encountered. At 9197 feet an electrical logging device was run. The hole was then carried down to 9379 feet, where another sand was found. While trying to test this sand, a drill stem was stuck. The hole was plugged back to 4500 feet and redrilled to 8740 feet, where casing was set to protect the hole. It was then drilled to 9545 feet and several tests were made which showed salt water. After plugging back a number of times it was finally abandoned at 5722 feet.

SHREVEPORT DINNER

Shreveport, Feb. 28.—Positive determination to work together for the general good of the petroleum industry was evinced by oil and gas men of three states, who assembled at a banquet at Shreveport, Friday night.

Sponsored by the Louisiana-Arkansas Division of the Mid-Continent Oil and Gas Association, the gathering was the largest of its kind ever held in Louisiana. Originally planned for about 300 members of the oil fraternity, reservations mounted to such proportions that additional space was contracted for twice and the attendance reached nearly 700.

The purpose of this meeting was to bring together operators throughout North Louisiana, East Texas and Arkansas to acquaint them with each other and form a closer bond of fraternalism in working for the economic betterment of the entire industry. The meeting, according to D. W. Harris, president of the Louisiana-Arkansas Division, who served as toastmaster, was a success from every standpoint and paved the way for the oil and gas men of East Texas, Arkansas and Louisiana to present a solid front against any troubles and difficulties besetting them.

Large delegations from all sections of these three states were present, more than half the attendance being from outside Shreveport. The principal speaker was George B. Logan, St. Louis attorney, and an authority on insurance, sales tax and labor legislation, whose subject was "Social Security Legislation."

Among the guests were Governor James A. Noe of Louisiana, and Mrs. Noe, and a number of state officials; members of the Arkansas Conservation Commission; James D. Collett, president, Mid-Continent Oil and Gas Association, and Clarel B. Mapes, secretary.

Arthur R. Campbell, secretary Louisiana-Arkansas Division, with an entertainment committee, made the arrangements.

HEARING CALLED

Austin, Texas.—The Texas Railroad Commission has called a hearing to be held at Midland on March 6, to determine the limits of several West Texas fields. Evidence will be heard to determine the east line of the Leck and Hendricks fields and to determine the western limits of Scarbrough, Brown-Altman, Sayre, Emperor, Sealy and Bashara areas.

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Rodessa Extended

TWO WELLS INDICATE FIELD LIMITS APPROACHED

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport.—Three wells extended the producing limits of the Rodessa field in as many directions last week. Two are small capacity and probably edge wells. Four other producers brought the total number of oil producers at Rodessa to 90. There were 50 rigs operating in the field and eight derricks and locations.

One-half mile southwest of the nearest oil producer, the second oil producer for Cass County, Texas, was completed in R. W. Norton's Rives 1, John Collum Survey. Total depth is 6057 feet. The well came in flowing 72 barrels of oil per hour through quarter-inch choke with 700 pounds tubing pressure and 900 pounds casing pressure. Two-inch tubing was set at 6053 feet.

One mile west of the northwest outpost producer at Rodessa, Haynes Production Company's Zylks 1, SE SE 9-23n-16w, made 140 barrels of oil in 12 hours through one-half-inch tubing choke, total depth of 5994 feet. Tubing pressure was 700 pounds and casing pressure, 900 pounds. The gravity of the oil was 53.3 corrected.

Lion Oil & Refining Company's John M. Wynn 1, NE SW 9-23n-15w, one and one-half miles east of the nearest oil producer, tested a salt water flow when swabbed at total depth of 6157 feet, was plugged back and seven-inch casing which had been set at 6145 feet was perforated and the well brought in through two and three eighths-inch tubing set at 6082 feet making 15,000,000 cubic feet of gas daily and 15 barrels of oil and distillate per hour through the tubing from 6112 feet.

Northeast Extension

One-fourth mile northeast of production, Haynes Production Company completed Pitts B-1, NW SE 12-23n-16w, at 6029 feet flowing 135 barrels per hour through one and one half-inch tubing. Tubing pressure was 1700 pounds and casing pressure, 2200 pounds.

Haynes Production Company completed Tyson 2, 14-23n-16w, flowing 334 barrels per hour. Later it flowed 172 barrels per hour on one and three fourths-inch tubing with tubing pressure 150 pounds and casing pressure 600 pounds. Two and one half-inch tubing was run to 6081 feet and 102 feet of casing was perforated. Five-inch OD liner was used and total depth was 6082 feet.

Pelican Oil & Gasoline Company's Sexton 11, Section 14-23n-16w, flowed only 100 barrels in 12 hours through half-inch tubing with tubing pressure 1700 pounds and casing pressure, 1850 pounds. It is estimated to be making 5,000,000 cubic feet of gas. Total depth is 6034 feet. The small amount of oil from this well may be due to the large number of wells drilled in this section.

United Gas Public Service Company's Tyson 5, Section 13-23n-16w, was completed at 6025 feet after two and one half-inch tubing was set at 6019 feet, flowing 80 barrels per hour through half-inch tubing choke with tubing pressure 650 pounds and casing pressure, 250 pounds.

The 90 producing oil wells in Rodessa are divided among the following companies as follows: Lion Oil Refining Company, one; United Gas Public Service Company, 28; Haynes Production Company, 26; R. W. Norton, seven; Arkansas-Louisiana Gas Company, five; Marr and Perkins, two; Vaughn Production Company, three; McAlester Fuel Company, two; Danciger Oil & Refining Company, one; Bartex Pipe Line Company (Phillips Petroleum Company) one; Pelican Oil & Gasoline Company, 11; Manahan Oil Company, one; and O'Brien Brothers, two.

Another Showing

Another well not officially gauged but which gives assurance of being a producer and is a connecting link between a one and one-half mile northeast outpost in Section 18-23n-15w, and the main part of the field, was Bartex Pipe Line Company's Rodessa 1, NE SE 13-23n-16w, which on the last of several gauges made showed 25 barrels of oil per hour through quarter-inch choke. Total depth is 6011 feet. Four other wells are due for completion within the next few days, as follows: Delta-Jones Drilling Company's Neugent 1, Section 23-23n-16w (townsite well); Haynes Production Company's Lawton 9, Section 14-23n-16w; Pelican Oil & Gasoline Company's Sexton 10, Section 14-23n-16w, and R. W. Norton's Spearman 1, Section 18-23n-15w, in the northeast mile and one-half offshoot of the field.

Bear Creek Area

Interest in the Bear Creek area of Bienville Parish, in the North Louisiana basin cooled considerably last week after Texas-Seaboard Oil Corporation's McGee 1, Section 3-16n-6w, checked low on base of the anhydrite as compared to the discovery gas well in Lincoln Parish at Simmsboro, and also was dry in a drill stem test from 5562 to 5739 feet. The test is coring ahead.

Elevation of this test is 217 feet and contacts were as follows: top Arkadelphia, 2025 feet; chalk, 2236 to 2570 feet; top Blossom, 2795 feet; top red beds 3820 feet; top first stringer anhydrite, 4950 feet; massive anhydrite, 5240 to 5454

feet; base of the last anhydrite stringer, 5562 feet.

After the test cored four feet of hard and tight oolitic lime of the same age and position under the anhydrite as the wet gas producing sand in Lide and Greer's Fowler 1, Section 10-17-4w, Lincoln Parish, formation tester was run and the test was dry. The Bienville Parish test checked 422 feet lower than the Lincoln Parish gasser on base of the anhydrite and with the normal thickening for being down normal dip it should have checked only 200 feet lower. The anhydrite in the Texas-Seaboard test was 214 feet thick and since a geophysical high had been shown in shooting, and the well checked low, the theory was advanced that a mistake was made in reading the "shooting picture" and the top of the anhydrite was mistaken for the base of this formation and that the 214 feet of anhydrite accounts for the closure that was thought to exist on this structure, which in view of the contacts as compared to the Fowler 1 checked only normal.

Bienville Parish

Another test drilling in Bienville Parish is Lide and Greer's Davis Lumber Company 1, Section 12-16n-5w, elevation is 305 feet. Contacts in this test are as follows: top Arkadelphia, 2287 feet; chalk, 2501-2831 feet; top Blossom, 3070 feet; top red beds 4080 feet, top first stringer anhydrite, 5180 feet, and later this test was drilling anhydrite and shale at 5252 feet. The same company's Gardner 1, Section 10-17-4w, Lincoln Parish, after topping red beds at 3810 feet was drilling shale at 4175 feet.

Ohio Oil Company's 10,000-foot test in Cotton Valley, Webster Parish, R. L. Holloway 6, Section 23-21n-10w, after logging a formation said to have shown oil and gas from 5564 to 5586 feet, did not stop to test but is drilling below 5730 feet.

Location was made last week for a wildcat test in Webster Parish, J. P. Evans' Crichton 1, Section 35-18n-9w, on a large block. A seismograph crew of Mid-Continent Petroleum Company is making a survey of block centering in townships 16 and 17 north, range 3 east, Ouachita Parish, recently assembled by J. J. Meyers and associates.

Leasing Continues

Wildcat leasing continued unabated in North Louisiana last week, assembly of 12 blocks of acreage being contained in scout reports.

Three blocks were assembled in Caddo Parish in the immediate vicinity of Shreveport. Southwest Company of Tulsa, Oklahoma, took geophysical option on 12,000 acres centering in Section 12-16n-15w. Mid-Continent Petroleum Corporation is assembling a 5000-acre block in township 17 north, range 15 west, south and west of Cross Lake, Shreveport's water supply and south of Shreveport in township 17 north, range 14 west. United Gas Public Service Company is taking a block of several thousand acres.

In Bossier Parish, between the shallow Bellevue field and the Sligo gas field, Gulf Oil Corporation has taken approximately 4000 acres in Sections 2, 3, 4-18n-12w, and Sections 26, 27, 28, 33, 34 and 35-19n-12w. Torsion balance work was done in this area recently. Standard Oil Company of Louisiana has completed seismograph work around township 18 north, ranges 10 and 11 west and is taking leases. In DeSoto Parish centering just east of Grand Cane, R. C. Payne and associates of Marshall, Texas, have taken a block of 5000 acres and are rigging for Harris 1, Section 11-13n-14w, 700 feet from a test drilled to 3150 feet.

In Claiborne Parish, centering around Section 2-22n-7w, Magnolia Petroleum Company is taking leases after having a geophysical crew shoot this area.

Centering in Section 17-11n-9w, Red River Parish, I. J. Allen of ElDorado, Arkansas, has assembled 5000 acres for a 3000-foot test to start by June 1.

North of Downsville in Union Parish and centering around Section 8-19n-1e, the block extending into Lincoln Parish, James Patten and associates of Dallas, Texas, have assembled 8000 acres for a Glen Rose test to start in four months.

W. P. Leonard of Shreveport and associates have assembled a 4000-acre block centering in Sections 19 and 20-19n-13w, Bossier Parish, with the expectation of having a 5000-foot test drilled.

Two major companies are assembling blocks in Winn Parish. Gulf Oil Corporation has taken approximately 3000 acres centering in townships 11 and 12 north, range 5 west, besides scattering leases in the parish.

In the same parish Sun Oil Company has taken 5300 acres from a lumber company in one tract, as the nucleus of a block, the acreage being in township 11 north, ranges 1 and 2 west, in township 12 north, range 1 west, and in township 13 north, range 4 west. This company also took from the same company 4000 acres in Bienville Parish in townships 14, 15 and 16, range 8 west and in townships 15 and 16 north, range 7 west.

Besides two geophysical crews working between Dodson & Sikes in Winn Parish, Shell Petroleum Corporation also is shooting in that parish.

Seaboard Oil Corporation has a shooting crew working in Bienville Parish around Section 33-16n-9w and a unit of Geophysical Service, Incorporated, is working in township 18 north, range 6 west of the same parish. Arkansas-Louisiana Gas Company has a shooting crew working near the Sligo area, Bossier Parish, in township 17 north, range 12 west. Leases are still being taken in Jackson Parish, Gulf Oil Corporation being active around township 15 north, range 2 west. In the same parish, H. L. Hunt is leasing in township 14 north, range 2 west and C. D. Gouchee has taken some leases in township 17 north, range 3 west.

In Lincoln Parish, Gulf Oil Corporation bought 600 acres in township 19 north, range 3 west. The company also is leasing in Natchitoches Parish, having taken 3000 acres in township 11 north, range 7 west and 600 acres in 13 north, range 7 west. H. L. Hunt has taken 640 acres in townships 12 and 13 north, range 7 west and Arkansas-Louisiana Gas Company has taken 350 acres in township 13 north, range 6 west.

In Webster Parish, Texas-Seaboard Oil Corporation has completed assembly of an 8000-acre block centering in Section 10-18n-10w, where a geophysical high was recently discovered. H. L. Hunt also took some acreage in this vicinity as well as in several other parts of Webster Parish.

In Miller County, Arkansas, A. E. Erwin has assembled a block centering around Section 2-17-26, where Humble Oil & Refining Company drilled a test to 1875 feet and where that company discovered the existence of a graben.

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSSIER PARISH (Bellevue)—		
The Premier Investment Co., Scanland 9, 15-19n-11w	12	442
BOSSIER PARISH (Sligo)—		
Triangle Drilling Co. et al, H. L. Skannal Unit 3, well 1, 13-17n-12w	¶52	2715
CADDO PARISH (Rodessa)—		
Haynes Prod. Co., Pitts B-1, 12-23n-16w	12,000	6029
Tyson 2, 14-23n-16w	10,000	6082
Zylks 1, 9-23n-16w	1200	5994
Pelican Oil & Gasoline Co., Sexton 11, 14-23n-16w	1000	6034
Lion Oil Ref. Co., Jno. M. Wynn 1, 9-23n-15w	¶15-600	6112
United Gas Pub. Serv. Co., Tyson 5, 13-23n-16w	8000	6082
CASS COUNTY (Texas)—		
R. W. Norton, Mary Rives 1, Jno. Collum sur.	15,000	6057
LA SALLE PARISH—		
H. L. Hunt, Inc., La. Cent. Lbr. Co. 1, 33-10n-3e	*	2001
SABINE PARISH (Converse)—		
Braden, Schwanke & Merris, J. W. Tatum 1, 32-9n-13w	*	2100
UNION PARISH (Monroe)—		
Southern Carbon Co., Grayling 7, 29-21n-4e	¶19	2117

*Failures; †Junked; ¶Million cu. ft. gas.

TWO IN ARKANSAS
Rainbow City wells flow from Sullivant

WEEKLY STAFF REPORT

El Dorado, Ark.—Two good wells were completed last week in the newly discovered Sullivant sand in the northeast part of the old Rainbow City field, Union County. Ohio Oil Company's Pumphrey 5, Section 12-17-14, was completed at 3174 feet flowing 25 barrels per hour, two percent basic sediment and J. E. Crosbie, Inc. completed Sullivant 4 in the same section flowing 35 barrels per hour at total depth of 3173 feet.

Drill stem tests in two Arkansas widcat tests last week proved disappointing. In Erwin Leach et al's Bodcaw Lumber Company 3, Section 20-16-23, three tests were made after 27.5 feet of oolitic lime was cored from 3460-92 feet under anhydrite, part of it showing saturation. On each of the first two tests twelve feet of mud appeared and mechanical trouble caused the third to fail. The test is coring

ARKANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
UNION COUNTY (Rainbow City)—		
J. E. Crosbie, Inc., Sullivant 4, 12-17-14	825	3173
Ohio Oil Co., Pumphrey 5, 12-17-14	588	3174

*Failures; †Junked; ¶Million cu. ft. gas.

ahead last being reported at 3575 feet in lime.

Phillips Petroleum Company's J. D. Reynolds 1, Section 27-15-15 just outside the shallow Smackover field, Ouachita County, and designed as a deep test showed salt water when formation tester was run at 2754-82 feet and the well later was coring ahead.

MISSISSIPPI WELL

Jackson, Miss.—One completion and one new location were reported in Mississippi last week. In Wilkinson County, southwest Mississippi, Charles Green, Trustee's Foster Creek Lumber Company 1, SE SE 8-3n-1e, was abandoned at total depth of 5051 feet. The new location is Fred E. Courson's J. J. Newman Lumber Company 1, SE NW 2-6n-18w, Jefferson Davis County.

The showing of oil in the top of the Cockfield in the Wilkinson County test is considered significant. Although abandoned at 5051 feet in brown and sandy shale, this test logged top of the Cockfield around 3800 feet. A core at 3828 to 3835 feet showed sand and shale and from 3835 to 3845 feet was a dark fossiliferous shale. In a core at 3863 to 3871 feet the last three feet was sand with shale streaks and sand bearing oil. From 3871 to 3878 feet also had oil streaks but from 3878 to 3885 feet was sand carrying salt water. Kirby Petroleum Company and Danciger Oil and Refining Company each has a 25,000-acre block in Wilkinson County.

MISSISSIPPI
Completion

WILKINSON COUNTY— Company, Well and Location	Init. Prod. Bbls.	Depth
Charles Green, Tr., Foster Creek Lbr. Co. 1, 8-3n-1e.....	*	5051

*Failures; †Junked; ¶Million cu. ft. gas.

Monument Well

POTENTIAL FLOW OF 507 BARRELS PER HOUR RECORDED

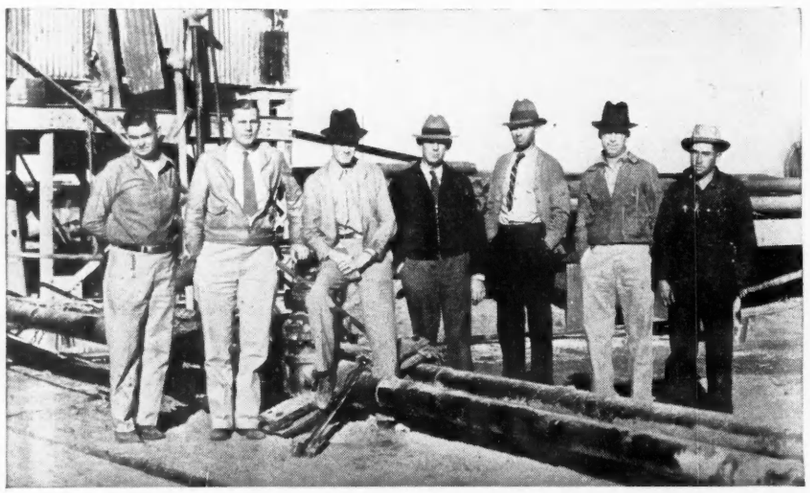
WEEKLY STAFF REPORT

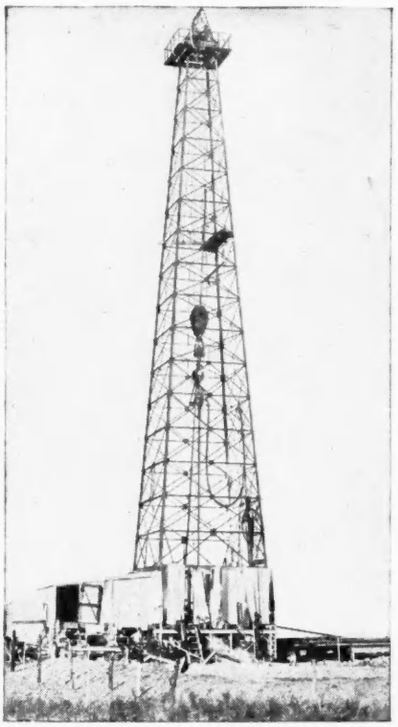
Hobbs.—Potential flow of 507 barrels of oil per hour was credited to Barnsdall Oil Company's Alaska Cooper 3, C NW NW 7-20s-37e, southeast portion of the Monument field, after treating saturated lime at 3790-3890 feet with 5000 gallons of acid solution. The figure represents average hourly flow on company gauge through 2½-inch tubing at 3887 feet. The well is reported to have made 534 barrels during the first hour. Prior to acidization, the well flowed 167 barrels per hour natural through ¾-inch choke on tubing. Top of brown lime was logged at 2560 feet, with an elevation of 3566 feet. It is an east offset to the company's Cooper 1, which is reported to have gauged 1178 barrels in one hour from lime at 3890 feet, or 323 feet sub sea, when completed last November.

Three of the 11 new locations authorized for Lea County during the past week were assigned to the Monument field. Barnsdall Oil Company has moved in rig to drill Cooper 4, C SE NE 12-20s-36e, and The Texas Company is preparing to drill a northeast outpost in locating its Saunders 2, C SW SE 18-19s-37e. Skelly Oil Company's B. A. Christmas 1, C SW SW 25-19s-36e, is an intermediate location between the original producing area and the northeast extension.

The fluid level in Repollo Oil Company's J. H. Williams 1, NEc 33-19s-37e, situated several miles east of nearest production in the Monument area, increased to 2000 feet when the hole was deepened to 4158 feet, or 571 feet below sea level. Tubing has been installed for a production test, with prospects fairly good for a commercial producer. It is more than 200 feet below the average water level for the field proper, and appears to have missed the regular water zone as only a small amount of water was encountered.

The Eunice field accounted for five flowing completions and seven new locations the past week. Efforts to shorten the unexplored interval between the Eunice and Monument fields were renewed when The Texas Company started operations on State 1-H, C SE SE 31-20s-37e, being one location north of production in the former area. Repollo Oil Company et al made locations for State 4, NW SW NE, and State 5, SW NW NW, both in 19-21s-36e. Shell Petroleum Corporation's State 1-H, C SE SE 13-21s-35e, is a north offset to a producer on the extreme west flank of the structure. Tide Water Oil Company's State 3-D, C NE SE 16-21s-36e,





Group picture, shown above, was taken immediately after the completion of Barnsdall Oil Company's Alaska Cooper 3, at right, second big producer for the company in the Monument field. Reading from left to right: P. Sullivan, production foreman; A. P. Loscamp, district geologist; O. C. Dillon, gas department; C. W. McKeen, superintendent for West Texas and New Mexico, all of Barnsdall Oil Company; Chas. W. Alcorn, vice president of Falcon-Seaboard Drilling Company, Oklahoma City, contractors on the well; Jim Murray, presidnet of Metex Supply Company; and C. C. Meyers, lease pumper for Barnsdall Oil Company.

is a new location for the east edge of production. Gulf Oil Corporation made two locations in the north sector, including State-Orcutt 6, C Lot 8, 5-21s-36e, and State-Bell-Ramsey 8, C Lot 12, 4-21s-36e.

Production in the Eunice area was advanced one location north when Devonian Oil Company's State-Heasley 2, C Lot 2, 5-21s-36e, averaged 25 barrels oil per hour on four-hour open tubing test after using 1000 gallons of acid in lime at 3780-3866 feet. The hole was drilled to 298 feet sub sea.

Tide Water Oil Company's State 1-D, C NW SE 16-21s-36e, scored a high potential rating from lime at 3820-3890 feet, with an initial gauge of 162 barrels per hour, flowing through one-inch choke on tubing and one-inch opening on the 5 3/16-inch casing. It has an elevation of 3612 feet.

Oil Well Drilling Company et al's J. W. Morris 1, SWc SE¼ 21-18s-38e, located on the east border of the Hobbs structure, earned a potential rating of 7092 barrels oil and 4,000,000 cubic feet of gas after using 6000 gallons of acid in lime at 4238 feet (corrected) depth. The hole is bottomed at a sub sea depth of 589 feet. Sun Oil Company's H. D. McKinley 1-B, SWc SW NE 20-18s-38e, swabbed only a small amount of oil with sulphur water when tested at 4242 feet, or 585 feet sub sea, with packer installed on tubing. The hole has since been plugged back to 4208 feet to try and make a producer from the top section of the porous dolomite lime.

Testing Wildcat

Production test is to be given Gulf Oil Corporation's A. L. Christmas 1, C SE SE 27-22s-37e, located about two miles southeast of nearest production in the Eunice field, was preparing to make drill stem test at 3811 feet, or 290 feet below sea level, having logged oil saturation in lime at 3675-95 feet and at 3775 feet. Similar showings were logged by The Texas Company's recent failure on the J. M. Dean tract, located 1½ miles to the west, but acid and nitro failed to develop commercial production. However, Christmas 1 is assured of a small gasser in lime at 3300 feet.

Pumping equipment will be installed on Skelly Oil Company et al's B. F. Harrison 1, wildcat in eastern Lea County, after swabbing tests proved the well capable of producing from 300 to 400 barrels daily. It has been in process of completion since last December. Samedan Oil Corporation, Ardmore, Oklahoma, has made location for C. U. Parks 1, SWc S½ 14-22s-37e, to try for production in the sandy-lime zone in the eastern section of Lea County.

Continental Oil Company and The California Company's M. F. Sholes 1-A-13, C SW SE 13-25s-36e, a workover test in the north Jal area, averaged above 12,000 barrels of sulphur water daily on an extended production test after deepening to 3344 feet. It will be plugged back to casing at 3286 feet, then re-drill the top section of the lime.

Crafton Oil Company's M. A. Hair-Humble 1, C SW NW 11-24s-37e, semi-wildcat in eastern Lea County, is preparing to pump after nitro shot at 3760 feet. The well is expected to pump from 30 to 50 barrels oil daily.

GARLAND PROMISING

Saturated Tensleep in outpost test

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Lovell, Wyo.—The Kinney-Coastal Oil Company of Denver, drilled 75 feet of saturated Tensleep sand in its outpost well, Garland anticline near here, Park County. The well, government 3, southwest corner NE 24-56n-98w, cored the Tensleep at 4245-4320 feet and is drilling plug with the production string set on top of the saturated oil sand.

If the well is commercial, it will bring Wyoming a new oil producing horizon at Garland. Oil at Garland so far has been developed in the Madison formation at 4420 feet. The Embar and Tensleep formations carried heavy flows of gas on the high of the Garland structure where three wells to Madison production have been completed and partially produced.

Garland anticline is a northwest to southeast narrow structure 15 miles in length and an average three and one-half miles in width. If the Kinney-Coastal Oil Company well develops oil further tests must be drilled to the northwest and southeast to determine limits of the Tensleep sand which may encircle the Garland high. Garland is crossed with nine faults throwing it into ten fault block areas of which only the high of the structure has been proved commercially. Oil developed in the Madison at Garland has an A. P. I. gravity of 19 degrees. The Garland anticline forms one of Wyoming's major black oil reserves in the Big Horn basin. Acreage at Garland is controlled by the Ohio Oil Company, the Utah Southern Oil Company, the Kinney-Coastal Oil Company, Crosby and Huntington, and Henry Harriman and associates.

Completing Well

The Ohio Oil Company is completing this week the highest structurally located well with the lowest surface elevation and the lowest structurally located well with the highest surface elevation of any wells drilled to date on Byron Dome, south of Garland in Big Horn County. This company's Charlotte Lindsay 1, CNW NE 23-56n-97w, elevation 4044 feet, topped the Embar at 4980 feet, drilled to a total depth of 5027 feet and is drilling plug, the seven-inch production string cemented at 4990 feet. Same company's Byron Union 4, CSW NE 22-56n-97w, elevation at 4243 feet and located on the rim rock of the structure, topped the Embar sand at 5587 feet and is drilling at 5617 feet.

Paul Stock who is drilling the Yale Oil Corporation's Allen Oil Company 1, SE NW SE 33-56n-98w, has cleaned out mound of frozen mud and water covering the derrick floor. Well was allowed to blow around 60,000,000 cubic feet of gas daily when blowout preventor was opened in order to prevent the well from cratering when gas from the Embar and Tensleep formations came up through the fault through which the well had drilled. The operator discovered that the well was drilled through a fault when he unloaded mud from hole and ran oil to loosen drill stem frozen on bottom at 3835 feet. Gas showed in crevices surrounding the well and in several old abandoned shallow gas wells in the Frontier. Operator was unable to make any headway in killing well until the cold weather broke up as the mud pits froze. Mud is being mixed preparatory to pump into well to kill flow.

Sidney H. Keoughan and the Taylor Oil Company are drilling a new hole at 4820 feet in Hoskins 1, Lot 59, SE SE 25-56n-79w, in the Byron field, Big Horn County. The Whipstock is cemented at 4690 feet.

The Ohio Oil Company released a new location on Big Medicine Bow field, Carbon County as another well is nearing completion. Union Pacific-California Company 2, CNE NE 35-21n-79w, is a first report.

The Ohio Oil Company is testing cement with the seven-inch production string set at 5246 feet in Union Pacific Account 1, NE SW SW 24-21n-79w, on Big Medicine Bow dome. Total depth is in the second Sundance sand at 5470 feet. Though no drill stem test was taken, cores recovered from the first Sundance and second Sundance sands showed good oil saturation. The first Sundance was logged at 5259-5300 feet and the second Sundance sand at 5381-5470 feet.

In the Rock River field, Carbon County, the Ohio's Harrison-Cooper 3, northwest corner S 35-20n-78w, drilled out cement with new 4¾-inch production string set at 3156 feet on top of the lower Sundance formation. Same operators are still fishing with one joint of drill stem in hole bottomed at 3030 feet in Harrison Cooper 10, SW SW 35-20n-78w, in the Rock River field.

Sidney H. Keoughan and Union Oil Company of California are preparing to resume drilling operations in Union Pacific 1, 1800 feet west of the east line and 1320 feet north of the south line of

MOUNTAIN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEW MEXICO		
SAN JUAN COUNTY (Kutz Canyon District)—		
Southern Union Gas Co., Government 4, cnw ne 14-28n-11w	¶4	1940
LEA COUNTY (Cooper Field)—		
Gulf Oil Corp., J. M. Cooper 2, c nw se 14-24s-36e	¶15	3698
LEA COUNTY (Eunice Field)—		
Conoco & California Co., Meyer 2-B-4, c sw se 4-21s-36e	1500	3895
Meyer 4-B-4, c ne sw 4-21s-36e	1000	3890
Devonian Oil Co., State-Heasley 2, c lot 2, 5-21s-36e	600	3866
Empire G&F Co., State 4-C, c se sw 16-21s-36e	¶5-3240	3912
Tide Water, State 1-D, c nw se 16-21s-36e	5000	3890
LEA COUNTY (Hobbs Field)—		
Oil Well Drlg. Co., J. W. Morris 1, swc se¼ 21-18s-38e	¶4-7092	4238
LEA COUNTY (Monument Field)—		
Gulf Oil Corp., B. V. Culp 3, c se nw 19-19s-37e	2700	4002
Shell, State 2-C, c se ne 24-19s-36e	1163	4043
The Texas Co., State 2-E, c se sw 1-20s-36e	2600	3892
LEA COUNTY (Wildcat)—		
Sam K. Vierson et al, W. D. Robinson 1, c nw se 14-11s-32e	*	4794
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
McCabe Jefferies, Rasmusson 1, csw se 32-33n-5w	70	2690
WYOMING		
NIOBRARA COUNTY (Lance Creek Field)—		
Ohio Oil Co., Converse Sheep Co. 6, csw se 32-36n-65w	70	3802

*Failures; †Junked; ¶Million cu. ft. gas.

1-18e-78w, Carbon County, Wyoming. Well had been shut down at 440 feet, total depth, on account of cold weather. Well will be a test to the Sundance sand in the Dutton Creek field.

On Quealy Dome, in Albany County, the California Company's Holst 3, NW SW SE 13-18n-77w, is drilling at 2222 feet.

Only two wells are being drilled in the Lance Creek field, Niobrara County, eastern Wyoming. The Argo Oil Company's Elliot 6, CSE SW 5-35n-65w, is spudding. This well will be drilled to the lower Sundance sand.

The Ohio Oil Company has rigged up its new location, Converse Sheep Company 5, CSE SW 32-36n-65w.

MONTANA ACTIVE

Great Falls, Mont.—Neil Spencer completed a well last week in the Cut Bank field, Glacier County, northern Montana, as the field slowly renews its activity, after a shut down in nearly all operations due to the cold weather. Two wells are nearing completion with one looking good for another Sunburst producer.

Neil Spencer's Tweedy 1, CSE SW 25-33n-6w, swabbed 150 barrels in the first 24 hours. Total depth is at 3015 feet and 2500 feet of oil rose in the hole when the bit went in the sands. This well is a half mile northwest of Custer's Tweedy 2.

Jack Marshall's Tribal 1, Lot 7, 7-32n-5w, is testing the Sunburst sand at 2872 feet and 2883 feet which was well saturated with oil. The seven-inch production string was set at 2865 feet.

The Montana Power Gas Company set the seven-inch pipe at 2808 feet in Whetstone 2, SW NE 8-33n-5w, and is drilling out plug at 2845 feet.

One well is active in the Kevin-Sunburst field, Toole County, northern Montana, this week. Tommy Herriman has spudded 1, SW SW 5-35n-2w.

Montana Dakota Utilities Company's Unit 1, NE NE NE 17-4n-62w, deep test of the Baker-Glendive anticline, Fallon County, eastern Montana, is still shut down at 6340 feet because of unfavorable weather conditions.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KETTLEMAN HILLS—		
Standard, No. 76-29J	870	8230
EDISON—		
Jergins Tr., Smithwick 3	400	1348
Union, Dougherty 3	75	2488
FRUITVALE—		
Gulf, K.C.L. B-19	300	3889
Elliott Core Drlg. Co., Elliott 1	*	3990
ROUND MOUNTAIN—		
Calif. Western Oil Co., No. 7-14	350	1515
Shell, Olcese one 5	700	1985
EL CAPITAN—		
General, Erburu 15	60	2421
SHIELLS CANYON—		
Bankline Oil Co., Ca¹umet B-2	600	3674
MOUNTAIN VIEW—		
Hogan Pet. Co., Wharton 3	*	6289
MOUNT POSO—		
Richardson & Heaston No. 1	*	3095
DOMINGUEZ—		
Union, Callender 38	95	6703
KRAEMER—		
T. W. Cooke Drlg. & Service Co., Cooke 1	35	2657

*Failures; †Junked; ¶Million cu. ft. gas.

Search Basement

VENICE-TORRANCE AREA BEING TESTED IN LOWER STRATA

WEEKLY STAFF REPORT

Los Angeles.—Discovery of a deep producing horizon in the Venice field in 1930 and the subsequent development of its southern extension in 1934, has demonstrated the presence of productive sands at depths formerly considered unfavorable to the accumulation of oil. Production in these fields originate at the base of the Miocene formation, in a conglomeratic schist, probably of Jurassic age.

In the Coastal area, between the Venice and Torrance fields, detailed field work has been successfully employed, with the results that this district is now undergoing an intensive search for "basement" production.

The Republic Petroleum Company, Section 18-3-14, near El Segundo, has completed its first wildcat venture for 400 barrels a day, 24.5 gravity, cutting 14.0 percent. The hole was drilled to 7405 feet, with seven-inch casing cemented at 7106 feet, giving it 299 feet of penetration in the conglomeratic oil sand. Republic Petroleum Company's No. 2 is coring at 5100 feet in hard shale.

Larco Oil Company's Van 1, total depth 7600 feet, located in Section 12-3-15, is standing by, awaiting the final outcome of Republic Petroleum Company's No. 2 before further drilling.

In Section 7-2-14, Jean Marvin, has taken over Richfield Oil Company's Woods 1, abandoned several years ago at 6359 feet, and is preparing to deepen the hole and test the lower formations.

Walter Elliott has taken over Pan Tex Oil Corporation's No. 1, located in Section 20-3-14, and has deepened it to 6430 feet, with future plans for deeper drilling also awaiting the successful completion of the Republic Petroleum Company's well.

Two miles southeast of the El Segundo activity, in Section 22-3-14, the Sovereign Oil Corporation's Ben Long 1, has been drilled to 8766 feet and has been tested without showing anything of a commercial nature. The sedimentary thickness encountered in this project was found to be greater than at first anticipated, as the hole bottomed in sand and shale. The operators have plugged the well back to 4960 feet, preparatory to redrilling the lower portion of the hole before deepening.

North of Torrance

North of the Torrance field, in Section 33-3-14, Pioneer Holding Company, Pioneer 1, originally drilled to 4317 feet, idle since November, 1935, has recently been cleaned out to bottom. A survey has been made of the hole and heavy rotary equipment is being installed in preparation for an exploratory test of deeper underlying sands. Operations are now being conducted by Shell Oil Company.

In the central portion of the Torrance field, Chanslor-Canfield Midway Oil Company has selected Del Amo 23 for a deep test of its large holdings in this field. The original depth and last production of this well was obtained from 3650 feet, with 10¾-inch casing cemented at 3006 feet. The hole now is 4165 feet deep in sandy shale.

The operators in the Venice-Torrance area have become schist conscious. The geophysical prospecting, which has designated a number of schist highs along this Coastal trend, has resulted in the present active wildcat campaign, which in itself, is approaching feverish "highs."

The easterly extension of the Montebello field has not equaled the hopes held for it, due to a number of recent failures. Universal Consolidated Oil Company's Nutt 3 is the most promising project now active in this area. It is bottomed at 5863 feet, in conglomeratic oil sand, with 9⅝-inch casing standing cemented at 5730 feet. Prior to running the casing, an open hole formation test was made from 5735 to 5863 feet, at which time the well flowed at the rate of 2300 barrels of oil a day.

In the Yorba Linda district, Continental Oil Company's Carlton Community 1, in Section 21-3-9, easterly extension test of the East Coyote field, is nearing an interesting stage of development. Conglomeratic oil sand and shale has been cored intermittently from 2325 to 2492 feet, its present bottom. Productive sands are not expected until 3200 feet, however the occurrence of these shallow showings lend encouragement to this important test.

Two Important Wells

The Coastal district came to the front last week and presented the state with two important producing wells.

Continental Oil Company's Hobson 1, is located in Padre Canyon, Section 15-3-24, midway between the company's own San Miguelito field and the tideland field of Rincon, Ventura County. It was drilled to 5501 feet (pliocene) and 6⅝-inch casing was cemented at 5415 feet. This pipe was perforated in the hole from 5240 to 5300 feet (cemented through perforations at 5240 feet) 5160 to 5123 and 5110 to

5092 feet. The well was swabbed in on February 21, through 2½-inch tubing hung at 5000 feet, for 400 barrels a day rate, 29.0 gravity, 15 percent cut. Although yet a little early to determine the possibilities of sustained production, its performance so far presages an intensive drilling program, outlined by interested companies, to define the limits of this new field.

Bankline Oil Company completed Calumet 2 on February 16 for 650 barrels a day, 38.4 gravity, along with 250,000 cubic feet of gas. This well was an exploratory test of the deeper Sespe sands of the Shiells Canyon field. The hole was bottomed at 3674 feet, with 10¾-inch casing cemented at 3638 feet, and 59 feet of 6⅝-inch perforated liner was landed at 3674 feet.

Barnsdall Oil Company-Rio Grande Oil Company's Bell 12, Eocene test of the Elwood field, Santa Barbara County, is drilling at 7350 feet in sand and shale showing oil, with 5¾-inch casing cemented at 6725 feet. The two companies' Bell 1, discovery well of the Elwood field, is preparing to deepen for a test of lower formations. Completed July 23, 1928, for 2500 barrels a day, at 3208 feet, with 11¾-inch casing cemented at 3155 feet, this well was a forerunner of an intensive wildcat campaign, which has produced, to date, three oil fields in this area.

Testing in Deep Hole

In the North Dome area of the Ketleman Hills field, Union Oil Company is conducting a series of swabbing tests in Lillis-Welch 1, exploratory project in Section 24-21-16. The hole was drilled to 11,147 feet, plugged to 10,760 feet, with 6⅝-inch casing cemented at 10,813 feet. The 6⅝-inch casing has been perforated from 10,747 to 10,547 feet and tested in stages. It is believed that these are record depths for gun-perforated pipe. Present swabbing operations at 5100 feet are resulting in only slight showings of gas and oil.

In the Pyramid Hills district of Kings County, Associated Oil Company has staked a location for Avenal 1, wildcat venture, in Section 35-23-17. This location falls approximately 5½ miles northwest of Royalty Service Corporation's Spreckles 1, now drilling at 2675 feet in sand and shale (Middle Temblor). The top of the Temblor was cored at 1920 feet and a test for production showed the possibilities of obtaining a small pumping well. The well is being deepened to the Kreyenhagen formation, which is the next producing horizon, and it is expected to be encountered at about 3100 feet.

Union Oil Company is conducting an open-hole production test on Gibson 7, in the North Belridge field of Kern County. The well has been drilled to 9422 feet with seven-inch casing cemented at 8586 feet. Cement has been cleaned out to 9217 feet, two-inch tubing is hung at 8654 feet and the final results of this test will be known within a few days. A successful completion at this depth, believed to be Eocene, will strengthen the possibilites of deeper production in surrounding fields.

GAS LINE DEAL

MICHIGAN

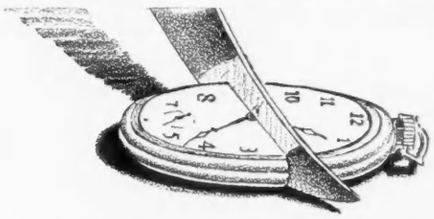
WEEKLY STAFF REPORT

Mt. Pleasant, Michigan.—Consumers Power Company, largest purchaser of natural gas in Michigan, has purchased Petroleum Transportation Company, a gas field gathering company, and in announcing the deal announced a new flat 15-cent per thousand cubic feet price for gas at the well head.

Under old contracts the price reached a peak of 12 cents per thousand at the well head and dropped to as low as nine cents depending on average field pressures and the necessity of compressor stations. Under the new setup, according to Dan E. Karn, vice president and general manager of the utility, a flat 15-cent price will be paid at the well head and the company will pay all gathering and compression costs.

Petroleum Transportation Company was organized about one year ago as a common purchaser company in the Hinton - Millbrook - Belvidere gas field as a gathering company. Consumers bought gas from a central station and did not enter into the gathering business.

Consumers Power Company has under construction a 10-inch gas main from the Tri-Township field to Lan-



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sing, approximately 70 miles. Besides serving Lansing, spur lines will be laid to various smaller communities along the route. It is estimated that the Lansing line will provide a market of between three and five billion cubic feet per year. Consumers power also has the same field tied into its Broomfield pool to Saginaw Valley system.

Michigan Public Utilities Commission is expected to hand down a decision within the next two weeks on the application of the Grand Rapids Light & Gas Company (subsidiary of the American Light & Traction Company) to construct an eight-inch or 10-inch main from the Tri-Township field to Grand Rapids, approximately 60 miles.

In the preliminary report of the United States Bureau of Mines survey, made during December and January at the request of the public utilities commission, of reserves in the Tri-Township field, Hinton and Millbrook townships of Mecosta County and Belvidere township of Montcalm County, the report estimated the field will recover approximately 29 billion cubic feet of gas from about 10,000 to 13,000 proven acres. Other estimates had ranged as high as 100 billion cubic feet for the "entire area," which included both the Austin field, Crystal, Ferris, New Haven and others. Open flow of the Tri-Township field is now rated at better than 600,000,000 cubic feet per day by the State Geological Survey.

Mt. Pleasant, Mich.—No further sale of state-owned lands, except plotted lots, will be made by the Department of Conservation until final action of the state supreme court on the constitutionality of Act 280 of the Public Acts of 1909. The commission decided to postpone all sales until the high court ruling is made.

A circuit court decision at West Branch, Ogemaw County, held the act unconstitutional, which purported to give the commission authority to withhold sub-surface mineral rights on any lands it sold.

The lower court decision was made in the case of Nick Krench vs. the State Conservation Department, Fortney Oil Company, Shell Petroleum Corporation, et al, and involves a 40-acre lease in Horton township, Ogemaw County. Under the act in question the state claims the right to divorce mineral rights from surface rights of lands reclaimed by the state for delinquent taxes, and the further right to sell the surface rights, retain or sell mineral rights.

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
Goll, Graves, Mechling, Kent 1, 17n-1e, ne nw se-23	*	1430
GRATIOT COUNTY—		
New Haven Oil Co., Fisher 1, 11n-4w, c se se-34	*	1000
MECOSTA COUNTY—		
Gordon Oil Co., Ehlert 1, 13n-7w, c se se-29	¶8.5	1300
MONTCALM COUNTY—		
Bryan & Martin, Wood 1, 12n-7w, c se sw-3	¶31.5	1273
Rowmor Oil Corp., Lamphier 1, 10n-5w, sw sw ne-2	1000	3198

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
INDIANA		
KNOX COUNTY—		
Phillips Pet. Co., M. E. Blann 4	*	821
Gertie Winemiller 1	*	821
E. F. Foncannon, Carrie E. Beard 1	*	....
SPENCER COUNTY—		
Petroleum Exploration Co., Nick Gasser 1	*	....
John Spinner 1	*	....
LAWRENCE COUNTY—		
J. M. & J. F. Imler, Rose Waybright 1	¶	643
MARTIN COUNTY—		
Sage & Olivente, Elijah Greenwood 2	¶	....
HUNTINGTON COUNTY—		
E. Lantz, Charles Wiley 3	*	....
DELAWARE COUNTY—		
Fred L. Crapo's Center Field 1	¶	....
KENTUCKY		
OHIO COUNTY—		
Stewart & Gealey, Roberts 5	*	....
McLEAN COUNTY—		
Sunflower O&G Co., Shackleford 1	*	....
Howard 4	50	....
Howard 5	*	....
Howard 6	75	....
Ellis & Barrett, Howard 2	10	....
Howard 3	*	....
Howard 4	*	....
Cameron & Thompson, Kerrick 4	48	....
Wittmer Oil & Gas Co., Stevenson Hrs. 1	*	....
B. B. Oil Co. & Co., Morton Hrs. 1	200	....
Major Washburn, Shockley Bros. 3	225	....
OHIO		
ATHENS COUNTY—		
C. W. Nuzum, Halbert 3	¶	1561
C. S. Parks & Co., Young 1	¶	....
Mosier & Co., Hoon 52	*	454
Meigs Development Co., Hoback 1	¶	2245
Paramount Gas Co., Carbondale 1	¶	....
Hocking Valley Drlg. Co., New York 1	¶	3833
H. O. Bode & Co., Byforeman 1	*	1180
Ellicott Oil Co., Pickell 3	2	1019
Ohio Fuel Gas Co., Sunday Creek 5695	*	....
MORGAN COUNTY—		
Ohio Fuel Gas Co., Wood 3	¶	1590
Ohio F. G. Co., O. L. Chappelear 1	¶	1590
Kepple & Co., Van Fossen 13	¶	1588
MEDINA COUNTY—		
E. R. Edson Son's Co., Miller 71	41	487
Miller 69	23	482
Miller 54	10	500
Miller 55	8	461
Miller 56	11	486
Franks 42	12	dry
Franks 43	12	493
Wideman 8	5	539
Pittsford & Co., Gilman Bros. 21	20	498
MEIGS COUNTY—		
A. N. Bengal, Williamson 1	¶	2119
Meigs Dev. Co., Ours 2	¶	2085
Ohio F. G. Co., Conant 1	¶	1898
Haley 1	¶	922
I. Fleming, Deem 1	4	818
Meigs Dev. Co., Starr 4	¶	774
Houston & Co., Powell 1	¶	1990
Jividen 2	¶	2084
Hall & Co., Circle 1	¶	1951
Meigs Dev. Co., Hoback 1	*	1921
Roy Holmes & Co., Clarence Wolf 1	*	1899
MONROE COUNTY—		
Staut & Schafer, Covert 1	¶	2180
John Lumbatis & Co., Robinson 1	2	1263
H. W. Meyers & Co., Baker 4	¶	1982
Gordon Green & Co., Leasure 3	*	1305
JACKSON COUNTY—		
Hanley Bros., Proctor 1	¶	4115
CLAY COUNTY—		
Elk River Gas Co., Keith 1	¶	2095
SUMMITT COUNTY—		
East Ohio Gas Co., Lauby 1	*	....
J. W. Butler, Gillie 1	*	3783
HOLMES COUNTY—		
Arkansas F. O. Co., Patterson 2	25	3550
Ohio F. G. Co., Martin 1	¶	3329
Bucy 2	*	3340
DAVIESS COUNTY—		
Wallace Oil Co., Ragsdale 1	*	....
Manager Discount Inc., Frye 1	*	705
BELMONT COUNTY—		
E. L. Johnson & Co., McMinnis 8	3	90
George Lacknett, Biggs 8	*	739
Barnesville Dev. Co., McKinley 1	¶	1435
HARRISON COUNTY—		
Pfeiffer & Co., Green 1	¶	658
LICKING COUNTY—		
Harry Perkins & Co., Underwood 1	*	....
Ralph Bros., Boy Scout 15	2	743
E. H. Everette, Langstaff 2	15	3161
Home Construction Co., Carthell 2	15	3090
KNOX COUNTY—		
J. B. Reed & Co., Seymour 1	¶	2571
Upham Gas Co., Cann 2	¶	2892
Stats 1	80	....
S. C. Brown & Co., Rine 1	5	....
Davis, Stout & Co., McCullick 1	¶	....
Phillips Pet. Co., Hall 1	5	819
Bond 5	¶	612
FAIRFIELD COUNTY—		
Bishop & Patton, Schaffer 1	2	2055
City Natural Gas Works, Crile 2	¶	2321
Conrad 3	¶	2141
Fisher 2	¶	....
HOCKING COUNTY—		
Preston Oil Co., S.C.C.C. 124	175	3483
Sunday Creek Coal Co. 1583	75	3492
LORAIN COUNTY—		
Ferro Enamel Co. 2	55	2600
GUERNSEY COUNTY—		
George Jewell & Co., Thomas 1	¶	1608
Lyons & Johnson, Heney 2	¶	1375
NOBLE COUNTY—		
Hall & Co., Blair 1	¶	1480
N. T. Stout, Jackson & Griffith 8	*	1529
STARK COUNTY—		
Ohio F. G. Co., Geo. H. Deuble 1	¶	4315
East Ohio Gas Co., John B. Smith 1	*	4215
TUSCARAWAS COUNTY—		
Columbia Carbon Co., Scharr 1	¶	5053
PERRY COUNTY—		
Mid-East Gas Co., Beacham & Wilson 1	¶	3175
Hopewell G. & F. Co., Grover Jones 1	¶	4095
WASHINGTON COUNTY—		
Gale & Gale, Gale & Gale 3	3	430
Reno Oil Co., Fry 2	¶	1591
Harry Benegar, Moore 25	¶	1967
Depuy Bros., Eddy 2	¶	2129
S. E. Carney, Roe 3	¶	444
Hicks Oil Co., Sleck 1	¶	1560
Mosier & Co., Noon 52	¶	454
Harry Binegar, Moore 6	*	1967
McTaggart & Co., Thomas Barrett 8	¶	1831
WEST VIRGINIA		
RITCHIE COUNTY—		
King Knob Oil Co., Hill 1	15	1898
Mid-Pen Oil & Gas Co., Shore 1	10	1988
Lawrence Darm Oil Co., Lawrence 2	2	1960
Patterson & Pope, Patterson 2	4	1901
GILMER COUNTY—		
Hope Construction Refg., Wilt 1	6	1137
Trace Oil Co., Craddock & Hardman 4	12	....
MONONGALIA COUNTY—		
Moor Tex Oil & Gas Co., Shanks 2	1	2932
PLEASANTS COUNTY—		
L. C. White & Co., Browse 5	¶	1466
KANAWHA COUNTY—		
Falling Rock Co., Weir 110	*	2163
Columbia Carbon Co., Burdette 1	¶	4584
WIRT COUNTY—		
R. C. Waggoner & Co., Richter 3	1	2045
MARSHALL COUNTY—		
Union Gasoline, Mackey 1	1	3167
PLEASANTS COUNTY—		
Richeville Oil & Gas Co., A. J. Matheny 1	2	1906
ROANE COUNTY—		
Harry Anderson & Co., Roberts 1	*	1699
WETZEL COUNTY—		
Maxon Oil & Gas Co., E. F. Hoffman 2	30	2171
WOOD COUNTY—		
Wamsley Oil & Gas Co., Wamsley 2	2	1651

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

FRANKLIN COUNTY—McAlpine et al's Hobson et al, 26-8s-14w, arr resume co at 2589 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, 9-3n-29e, dk.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15s-16w, arr perf cas at 3118-35 ft, old td 4900 ft.

ARKANSAS

ASHLEY COUNTY—Seaboard Oil Co.'s Fee 2, nw ne 28-17-4, rur.

CRAWFORD COUNTY — Trumbo et al's Craddock 1, c nw ne 3-11-30, rur.

COLUMBIA COUNTY — Southern States Gas Co.'s Pine Woods Lbr. Co. 1, ne nw 10-20-22, arr deepen 1904 ft.

HEMPSTEAD COUNTY—Dixie Drlg. Co.'s Vada Wheatley 1, nw sw ne 14-11-26, sd for surf csg. Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-23w, rur. May & Easton's sw nw sw 20-12s-27w, elev 270 ft, 12½ in csg 80 ft, arr resume.

LA FAYETTE COUNTY—Erwin & Leach's Bodcaw Lbr. Co. 3, nw nw 20-16-23, elev 250 ft, 13⅜ in csg 330 ft, dry in three ds tests 3460-92 ft oolitic lime, dr 3576 ft lime. Joe Modisette et al's Frost Lbr. Co. 1, sw sw 29-19-24, elev 261 ft, 9⅝ in csg 1960 ft, arr deepen 2661 ft.

MILLER COUNTY—Odell Hinson's Montana Realty Co. 1, ne nw nw 3-17-28, rur. J. W. Jones et al's J. H. Bush 1, ne ne 2-19-27, mim. C. V. Lenz's Dale 6, 24-15-26, rur.

OUACHITA COUNTY—Griggsby & Aarnes' Burris 1, sw nw ne 19-15-19, elev 244 ft, sdtr drill stem 3410 ft, td 3565 ft. Phillips Pet. Co.'s J. D. Reynolds 1, se nw 27-15-15, 13⅜ in csg 619 ft, tested sw in ds test 2754-82 ft, coring 2820 ft. W. B. Street's Rath & Cartier 1, sw sw ne 33-13-18, 7-in csg 1398 ft, coring 1836 ft.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 1, ne nw 13-17-15, mim. F. C. Henderson's Sheppard 1, ne nw 35-17-15, elev 195 ft, top Nacatosh 2120 ft, tested 75 ft fluid and 200,000 cu ft gas, si td 2192 ft.

CALIFORNIA

FRESNO COUNTY

MONOCHINE RIDGE — Seaboard Oil Corp.'s Lillis-Welch 1, 30-16-14. dr sandy shale 2056 ft.

COALINGA—Jas. M. Conlon Co.'s No. 1, 30-19-15, dr shale 720 ft.

KERN COUNTY

BELRIDGE—Albert Beck's Beck-Bacon 1, 35-28-20, sd 1652 ft.

BUENA VISTA LAKE—Ohio's K.C.L. A-5, 31-31-26, td 5258 ft, running liner.

COMANCHE POINT—Shell's Bank One 1, 15-32-29, sd 5394 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 2182 ft, bad roads.

DEVIL'S DEN—Cumberland Oil Co.'s Mabry 2, 17-26-18, dr hard shale 4460 ft.

EDISON—Navy Oil Co.'s Caravel 1, 19-30-30, td 1447 ft, pumping water trace oil.

FRUITVALE—Elliott Core Drlg. Co.'s Elliott 1, 14-29-27, td 3990 ft, tested wet, abn. Mullane & Hall's Truesdall 1, 14-29-27, td 2804 ft, to deepen.

GRAPEVINE—Reserve O&G Co.'s No. 1, (formerly Ritchie) 23-11-19, td 6030 ft, bldg new rig, to redr. Silver Gate Co.'s Tejon 1, 7-10-19, td 2985 ft, co.

LOST HILLS—Standard's United 1, 2-26-20, dr sand 6082 ft.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, dr sand and shale 2916 ft.

McKITTRICK—Belmac Drlg. Co.'s Douglas 1, 22-29-21, td 4800 ft, fsh.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	oxdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so & g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wost—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

McVAN—Tom Bailes' No. 1, 11-27-27, rig. S. C. Brown's No. 1, 22-27-27, grade.

MOUNT POSO—Stabeck & Gardner's Glide 1, 31-27-28, sd 750 ft.

MOUNTAIN VIEW—Standard's Garcia 1, 13-30-28, dr gray sand 5357 ft. Treasure Oil Co.'s No. 1, 12-30-28, rur.

NO. MOUNT POSO—H. Mann's No. 2, 27-26-28, td 1400 ft, wocs 10¾ in at 1360 ft. Santa Clara Oil Co.'s Glide 1, 7-26-28, sd 900 ft.

STRAND—Ohio's No. D-1, 1-30-25, dr sand and shale 1520 ft.

SO. BUTTONWILLOW—General's No. 1, 5-30-24, dr blue shale 5817 ft.

STEVENS—Shell's K.C.L. 1, 29-30-26s, dr sand and shale 5006 ft.

WHEELER RIDGE—Reserve O&G Co.'s Tejon 5, 2-10-19, dr shale 2269 ft, top Santa Margarita at 1375 ft.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, rur.

KINGS COUNTY—Associated's Avenal 1, 35-23-17, lcn. Royalty Service Co.'s No. 1, 16-24-18, dr shale 2670 ft. Standard Tulrae Farms 1, 34-24-23, dr shale 2711 ft. Commonwealth Cons. Gas Co.'s No. 2, 21-22-20, sd 2460 ft. Hancock-Union's Giannini 1, 28-22-20, td 2913 ft, redr 2780 ft, bad roads. Kettleman View O&G Corp.'s No. 1, 29-22-19, sd 1401 ft.

MERCED COUNTY—J. R. Murrell's No. 1, 8-10-9, co 1300 ft.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 5, 15-2-5, rur.

SAN LUIS OBISPO COUNTY—Pismo Pet. Co.'s Scott 1, 5-32-13, rig. J. C. Theriot's Holland 1, 22-32-22, (formerly Emerich Oil Co.) co 1840 ft. Willett Oil Assn's Jack 2, 10-25-15, sd 3647 ft. Geo. Moss' Paso Robles 1, 27-26-13, rig. United Oil Co.'s No. 1, 2-32-21, ready to spud.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard sandy shale 6617 ft.

TULARE COUNTY—Kenwood Pet. Corp.'s Kenwood 1, 14-24-27, dr gray sand 1594 ft.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, td 7332 ft, wocs 7 in at 7250 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Santa Barbara O&G Co.'s Bryce 1, 29-4-25, co 2100 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, sd 1450 ft. Lompoc Pet. Co.'s Beauterbaugh 2, 18-7-34, sd 3940 ft.

NO. MESA—Humphries et al's Edna May 1, 20-4-27, sd 1425 ft.

ORELLA—Williams & Brown's No. 1, 34-5-31, rig.

POINT CONCEPTION—Union's Sudden 1, 10-5-35, rig.

SANTA MARIA—Union's No. 1, 24-10-34, lcn.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, sd 1600 ft.

VENTURA COUNTY

BARDSDALE—Bestco Pet. Co.'s Frey 1, 2-3-19, rur. Duke Oil Corp.'s No. 1, 7-3-19, td 2000 ft, land perforated at 1998 ft, swabbing. El Rancho Oil Co.'s Elkins 1, 9-3-19, dr red sticky shale 3206 ft. Laing & Jacobs No. 1, sd 1225 ft.

OJAI—Continental's Pirie 2, 12-4-23, td 1017 ft, swabbing oil and gas.

OXNARD—General Pet. Corp.'s McGrath 2, 26-2-23, sp.

PADRE CANYON—Continental's Hobson 1, 15-3-24, td 5501 ft. Perforated 6⅝ in two points, swabbed, showed good for 400 bbls, 29 gravity oil, cut 15 percent.

PIRU—Bolsa Chica Oil Corp.'s Snow 3, 4-4-18, dr hard shale 644 ft.

SANTA PAULA — High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft.

SHIELLS CANYON—Texas Co.'s Shiells 129, 4-3-19, fsh, td 2904 ft.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, dr sand and shale 2450 ft.

SO. MOUNTAIN—Calco Pet. Corp.'s Calco 3, 17-3-20, td 1320 ft co.

TORREY CANYON—A. N. Macrate's Torrey 1, 32-4-18, sd 4093 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 7068 ft.

SOUTHERN CALIFORNIA

ARTESIA—Engler & Long's Millard 1, 25-3-12, sd 5888 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, sd 3053 ft.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr gray sand and shale 6420 ft.

EL SEGUNDO—L. J. Marvin's Woods 1, 7-2-14, td 6364 ft, r at 5200 ft.

HUNTINGTON BEACH—20th Century Oil Co.'s Calnan 1, 36-5-11, circulating 5160 ft.

KRAEMER—Leaseholders Dev. Co.'s Vejar 1, 26-3-9, sd 4110 ft. Standard's Yorba Com. 1, 36-3-9, td 2714 ft, redr to 2656 ft, ran formation tester 2666-2714 ft, showed for gassy mud, scum oil and muddy salt water, to plug at 2656 ft.

LAWNDALE—Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 8766 ft, plug 4960 ft, to redr.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-3-16, dr shale 1667 ft; No. 6, setting boilers.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, sd 850 ft.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, td 6765 ft, showing mud and water through perforations 4660-4740 ft.

PICO CANYON—N. M. Fraser's No. 1, 31-4-16, sd 955 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, rig up to redr old hole, td 4259 ft.

PUENTE—Chas. R. Butler's Butler 1, 14-2-10, dr shell streaks hard shale 3290 ft.

TOPANGA CANYON—Monarch Pet. Co.'s Sylvia Park 1, 5-1-16, co 650 ft.

TORRANCE—Eyer Pet. Corp.'s No. 1, 20-4-13, dr shale streaks sand, showing oil 3252 ft. Oliver McDowell's No. 1, 35-3-14, sd 4633 ft. Pioneer Holding Co.'s Pioneer 1, 33-3-14, td 4317 ft, to redr.

VENICE—Del Rey-Eastern Oil Co.'s Del Rey Land Co. 1, 22-2-15, dr hard shale 5125 ft.

WEST LONG BEACH—Shell's Amebco 1, 13-4-13, dr shale and sand 5912 ft.

WESTMINSTER—Hillman Long's No. 1, 14-5-11, rur.

YORBA LINDA — Continental's Carlton Com. 1, 21-3-9, dr shale and oil sand 2491 ft.

RIVERSIDE COUNTY—Albert Pet. Co.'s Watt 2, 23-7-3, td 2787 ft, plug at 2125 ft, to redr. Fred E. Stevens' Everett 1, 27-3-7, ready to spud.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 1999 ft, land perforated on bottom for test.

COLORADO

LARIMER COUNTY—California Co. 1, se sw ne 6-11n-69w, dr 3242 ft.

MONTEZUMA COUNTY—Coon & Teague (McElmo Oil Co.) West 1, ne nw nw 31-36n-17, sd 3705 ft.

PARK COUNTY—South Park Oil Co. State 1, se se sw 16-11s-17w, dr 3760 ft, carrying 6¾ in csg.

FLORIDA

JACKSON COUNTY—Mrs. Mamie Hammonds et al's Grandberry 1, sw ne 15-5n-9w, wocs 12½ in surf cas.

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 1, 4-32s-21e, sd depth not given.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, 17-24s-25e, cored gray colitic lime and anhydrite 2680-96 ft, arr core ahead. Union Oil & Ref. Co.'s Gulf Expl. Co. 1, 17-24s-25e, wocs 15 in cas 65 ft.

PINELLAS COUNTY — Edw. A. Hill's Meyers 1, 2-27s-16e, lcn abn.

KANSAS

BARTON COUNTY—Torrey & Feaster et al's Kempler 1, se ne ne 31-18s-11w, td 3468 ft, pb 3462 ft, 1000 gals acid, no test. Yarnell, Carlson & Spencer's Bloomer 1, ne ne nw 36-17s-11w, td 3281 ft, 2000 gals acid, pump 60 bbls 2 hrs. Morgan & Flynn et al's Amerine 1, ne ne ne 14-19s-14w, fsg 2530 ft. Morgan & Flynn et al's Zimmer 1, se se sw 30-19s-14w, dr 1580 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, sd 2030 ft. Hilligoes et al's Schmidt 1, ne ne ne 27-19s-11w, dr 945 ft. Simpson, Noble & Atlantic's Hiss 1, cnw ne 31-20s-13w, mim.

COWLEY COUNTY—Aylward, Trees Oil Co. et al's Shields 1, sw sw sw 17-32s-6e, dr 3250 ft. Roth & Farout's Sherwood 1, ne nw sw 11-31s-4e, td 3037 ft, shot 40 quarts, co. Penwest's Clover 1, ne se se 8-31s-7e, sd 2825 ft. Reed & Milligan's Houston 1, nw nw sw 10-31s-4e, sd 2648 ft. Shawver et al's Wilson 1, ne se ne 11-30s-4e, dr 535 ft. Roth & Farout's Guthrie 1, se ne nw 30-33s-8e, sd 1280 ft. Morton et al's Roger 1, se se ne 1-31s-4e, dr 2825 ft. Mead Bros. et al's Orr 1, se se sw 23-31s-4e, mim.

ELLIS COUNTY—Blackwell O&G et al's Solomon 1, se se sw 28-11s-19w, lcn. Twin Drilling Co.'s Reidel 1, sw sw ne 27-13s-16w, br.

ELLSWORTH COUNTY — Smith-Ash & Phillips Pet. Co.'s Splitter 1, sw sw sw 19-17s-9w, dr 1510 ft. Skiles et al's Kafka 1, ne ne sw 15-17s-8w, br.

GRAHAM COUNTY—Vickers Pet. Co. et al's Hutton 1, ne ne se 29-8s-22w, sd 1375 ft.

HARPER COUNTY—Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, td 4987 ft, lost cir.

HARVEY COUNTY—Empire O&R Co.'s Webster 1, se se sw 8-24s-2w, dr 2450 ft. Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, sd 770 ft. Western Kansas O&R Co.'s Warkentin 1, csw sw 1-23s-2w, set 15-in csg 230 ft, ur 15-in csg 330 ft.

MARION COUNTY—Milton et al's Young 1, nw nw se 17-21s-3e, set 12-in csg 1060 ft, sd 1100 ft.

McPHERSON COUNTY—Ok-Tex et al's Moehlinger 1, se sw sw 21-21s-2w, mim.

NORTON COUNTY—Lario O&G and Elwell's Kennedy 1, sw sw nw 22-3s-23w, ur 8-in csg 3250 ft. Helmerich & Payne et al's Collins 1, cne¼ 11-3s-25w, td 3800 ft, D & A.

PRATT COUNTY—Lario, Elwell and Atlantic's Lemon 1, se se nw 12-29s-13w, dr 4220 ft.

RENO COUNTY—Rose Spring Drlg. Co. & Foraker's Brauer 1, sw sw se 4-26s-4w, td 4113 ft, pb 2114 ft, 10 bbls oil per day. Derby Oil Co.'s Schrock 1, se se sw 27-24s-5w, perf csg 3420-3430 ft, 2 bbls oil per hr. McPherson Drlg. Co. et al's Miller 1, se se ne 23-24s-5w, mim. Helmerich & Payne's Schwaiger 1, sw se ne 27-26s-5w, lcn.

RICE COUNTY—Skiles et al's Edwards 1, nw nw ne 3-18s-6w, td 3283 ft, pumped 550 bbls oil 20 hrs. Vernon O&G Co. & Cusco Oil Co.'s Boldt 1, nw sw nw 10-19s-10w, sd 2909 ft. Gratton et al's Williams 1, sw sw nw 17-18s-7w, sd 1120 ft. Continental & Empire's Nickel 1, ne sw sw 13-18s-8w, set 8-in csg 1367 ft, wocs. Duwe & Schneider's Wright 1, ne ne ne 36-21s-7w, spd & sd.

ROOKS COUNTY—Gillespie & Son's Lowe 1, ne ne nw 12-6s-18w, dr plug & had 200 ft oih. Murfin et al's Wasthusin 1, ne ne se 12-6s-18w, fsg 990 ft. Pryor & Lockhart's Bradley 1, sw sw ne 31-10s-16w, ur 8-in csg 2730 ft.

RUSSELL COUNTY—Phillips Pet. Co. and Sinclair Prairie's Driscoll 1, nw nw se 31-15s-11w, td 3407 ft, D & A. Coraleana Oil Co.'s Diskon 1, se se se 30-15s-13w, fsg 3000 ft. Warren Pet. Co.'s Bratton 1, se se se 25-11s-13w, sd 3390 ft. Central Pet. Co.'s Benso 1, se se sw 9-14s-15w, td 3096 ft, potential 292 bbls, comp. Sam Murphy et al's Enochutz 1, sw sw sw 10-15s-13w, co 2565 ft. Hartman & Blair's Boxberger 1, nw nw sw 32-13s-14w, ur 6-in csg 3220 ft. Empire et al's Major 1, se se se 11-14s-12w, fsg 665 ft. Bridgeport Machine Co. & Lauck's Wyckoff 1, se nw ne 27-11s-13w, fsg 1695 ft. Chas. Newbold's Krug 1, se sw se 4-15s-14w, spd. Hartman & Blair's Boxberger "B" 1, ne se sw 5-14s-14w, dr 1905 ft. Hartman & Blair's Johnston 1, nw nw nw 11-13s-14w, lcn.

SEDGWICK COUNTY—T. C. Johnson's Jensen 1, sw sw nw 11-28s-2e, sd 385 ft.

STAFFORD COUNTY—Herndon Drlg. Co. et al's Russell 1, cse nw 20-21s-14w, td 3792 ft, D & A. Farris et al's Snyder 1, se se nw 3-21s-11w, set 10-in csg 2062 ft, co 2089 ft. Kessler & Their's Evens 1, ne ne ne 30-21s-11w, lcn.

SUMNER COUNTY—Helmerich & Payne's Wright 1, se se nw 10-33s-2e, td 3503 ft, D & A. Morgan et al's Veail 1, se sw ne 27-32s-2e, dr 2510 ft. Helmerich & Payne et al's Elwell 1, nw nw ne 18-34s-1e, mim.

TREGO COUNTY—Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, td 4340 ft, bailed 1 bbl oil per hr, 3000 gals ackd, no test. Central Commercial's Wagg 1, nw nw se 17-13s-21w, td 3897 ft, 1300 ft oih, no test. Continental Oil Co.'s Holcomb 1, ne se nw 26-11s-23w, rur.

WOODSON COUNTY—Morgan et al's Vermont Savings Bank 1, ne nw ne 15-25s-14e, sd 1610 ft. Sheedy et al's Warner 2, sw sw sw 21-25s-14w, td 1500 ft, pb 1460 ft, co. Sheedy's Baker 1, se se nw 2-26s-14e, rig.

NORTH LOUISIANA

BIENVILLE PARISH—Gulf Oil Corp.'s W. T. Thiasher 1, sw sw 13-15n-7w, dr 2247 ft. Lide & Greer's Davis Lbr. Co. 1, ne se 12-16n-5w, top Nacatosh 2395 ft, Annona chalk 2528-2850 ft, top Blossom 2792 ft, top anhydrite 5180 ft, dr 5258 ft anhydrite and shale. Texas-Seaboard Oil Co.'s McGee 1, sw ne 3-16n-6w, elev 217 ft, top Arkadelphia 1960 ft, 10¾ in csg 2299 ft,top anhydrite 4992 ft, massive anhydrite 5240-5450 ft, tested dry in ds test 5739 ft, arr deepen.

BOSSIER PARISH—L. R. Baker et al's Bulkley 1, ne sw 36-21n-13w, dr 2100 ft sandy shale. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11w, sg 2780 ft, sd 3120 ft. United Gas Pub. Serv. Co.'s Murff A-1, 17-17n-11w, rur.

CLAIBORNE PARISH—Wm. C. McGlothlin's Brinker 1, sw se 10-23n-4w, 10-in csg 280 ft, elev 232 ft, base Minden 268 ft, Minden-Sparta contact 373 ft, top Cane River 787 ft, top Wilcox 1105 ft, top Midway 1545 ft, top Arkadelphia 2041 ft, top Nacatosh 2150 ft, dr 2410 ft shale and lime shells. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, fsg, td 4238 ft, oolitic lime. Ryan Oil Corp.'s Gladney 1, ne sw 27-20n-7w, elev 343 ft, anhydrite 4485-4960 ft, coring 5131 ft, bro sand and red beds. Sugar Creek Synd.'s Darrett 2, 31-21n-5w, sdtr, td 5660 ft sandy lime; Kilpatrick 1, sw ne 7-19n-5w, owdd, td 4558 ft.

DE SOTO PARISH—Alexander et al's Stell 1, 5-12n-16w, elev 245.6 ft, top stringer anhydrite 4960 ft, base last anhydrite 5187 ft, sg and sw 5167-70 ft, sg 5187-97 ft, coring soft formation 5272 ft. V. T. Bolin et al's McMichael 1, nw se 26-13n-15w, dk and mir. A. G. Halbach, Tr.'s Staten 1, 32-13n-14w, sd 3305 ft. R. C. Payne et al's Harris 1, 11-13n-14w, rur.

JACKSON PARISH—Caldwell L&T Co.'s Burroughs 1, ne nw 1-17n-1w, spd.

LINCOLN PARISH—Ark. La. Gas Co.'s Causey 1, nw ne nw 32-19n-2w, rur. Caldwell L&T Co.'s Hammonds 1, nw ne nw 30-18n-1w, wocs 15½ in csg 100 ft. Lide & Greer's S. Gardner 1, 10-17n-4w, 10-in csg 2386 ft, dr 4020 ft.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, sec 10-20n-7e, dk and mir.

RAPIDES PARISH—Amerada Pet. Corp.'s Beasley 1, nw nw 52-1n-2e, recemented surf csg, td 340 ft. Foster Oil Co.'s Hogan 1, 2-1n-2e, spd. Texas Co.'s Weil 1, 52-1n-2e, rur.

SABINE PARISH—A. H. Tarver's Baker 2, 36-8n-12w, top marl 2205 ft, dr 2957 ft shale and sand.

UNION PARISH—Lent, Bocher & Sears' Frost Lbr. Co. 1, nec 2721n-1e, elev 198.3 ft, cemtd 10-in csg 881 ft, wocs.

WEBSTER PARISH—Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, 15¾ in csg 360 ft, gas blowout from 6 ft sand 5534-40 ft, coring 5610 ft.

WINN PARISH—P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-2e, elev 209.4 ft, top Wilcox 1280 ft, Midway 2825-3470 ft, base Annona chalk and top Ozan 3875 ft, top Tokio 4300 ft, arr abn, td 4510 ft, hd shaley sand.

SOUTH LOUISIANA

ACADIA PARISH—Superior's G. Bradley 1, Bayou Mallet prospect, sec 51-7s-1e, lcn.

CALCASIEU PARISH—Fred Oil Co.'s Faist 1, sec 26-8s-10w, sd 4412 ft. A. G. Oliphant's Calcasieu National Bank 1, Nibbletts Bluff prospect, sec 23-10s-12w, dr shale 3220 ft. Union Sulphur Co.'s Prairie Farms 2, South Lake Charles prospect, sec 2-11s-9w, dr shale 8898 ft.

CAMERON PARISH — Magnolia's Miama Cooperation Co. 1, Willow Lake prospect, sec 32-12s-8w, dr shale 6887 ft.

EVANGELINE PARISH—Basile Oil Co.'s Hirsch 1, sec 14-6s-2w, fsh 8438 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Pigneur 274, Jefferson Lake prospect, sec 12s-5e, dr salt 8680 ft, to pb.

JEFFERSON DAVIS PARISH—Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, coring shale 9588 ft. J. K. Lewis' Lock Moore 1, Lock Moore prospect, sec 32-7s-6w, dr shale 5500 ft.

ST. BERNARD PARISH — Emerald Pet. Co.'s Shell Beach Properties 1, Shell Beach prospect, sec 31-13s-15e, sd 6346 ft.

ST. JAMES PARISH — Shell's Colonial Sugar Inc. 1, Convent prospect, sec 5-12s-5e, dr shale 4381 ft.

ST. MARTIN PARISH—Texas Co.'s St. Martin Land Co. 8, Henderson prospect, sec 9-8s-7e, dr water sand 5989 ft.

TERREBONNE PARISH — Shell's Realty C. 1, Houma Townsite prospect, sec 103-17s-17e, dr shale 9726 ft.

VERNON PARISH—Llano Cooperative Oil Corp.'s Llano F, sec 7-1n-9w, dr shale 2950 ft.

WEST FELICIANA PARISH — Southern Minerals Corp.'s M. B. Wood 1, 10 mi nw of St. Francisville, sec 54-1s-4w, fsh 1138 ft.

MICHIGAN

ALCONA COUNTY—Thalman and Morris' Kohlman 1, 26n-7e-10, sd 2540 ft.

EATON COUNTY — Burris and Keeler's Moon 1, 2n-4w-11, sp.

GLADWIN COUNTY—Sun Oil Co.'s Reid 1, 17n-2w-12, dr 400 ft.

GRATIOT COUNTY — Harley Williams' Smith 1, 9n-2w-29, sd 800 ft. Mountain Oil and Gas Co.'s Walters 1, 11n-2w-17, sd 1290 ft.

IONIA COUNTY—Wittmer Oil Co.'s Kimball 1, 7n-7w-15, sd 2550 ft. Associated Petroleum Co.'s Retensdorf 1, 7n-8w,-8, csg 2745 ft.

MONTCALM COUNTY—Jetter Oil Co.'s McCracken 1, 9n-5w-6, rig. Star Petroleum Co.'s Ward 1, 9n-5w-20, sd 400 ft. Old Dutch Oil Co.'s Hansen 1, 10n-7w-21, fsg 3000 ft; Russell 1, 10n-6w-29, lcn. John F. Martin's Christensen 1, 10n-6w-20, lcn.

SAGINAW COUNTY—Chas. Bell's Wegner 1, 11n-2e-10, sp. St. Louis Pipe and Supply Co.'s Yadovack 1, 10n-2e-13, sd 1300 ft. Pure Oil Co.'s Blumer 1, 12n-1e-10, dr 3000 ft. Henry McEvoy's Jenacki 1, 12n-2w-31, sd 1000 ft.

SHIWASSEE COUNTY—Frank C. Cheer's Wilson 1, 6n-3e-34, sd 200 ft.

TUSCOLA COUNTY—Bancroft Oil Co.'s Humes 1, 11n-8e-21, sp. Muskegon Development's Casey 1, 12n-10e-9, lcn. Smith Petroleum Co.'s McComb 1, 10n-8e-31, rig.

MASON COUNTY—Dragoon Development Co.'s Young 1, 17n-15w-15, sd 2550 ft. Max Prey's Barothy 1, 17n-13w-29, so-g-w Dundee, 2500 ft, to deepen for Monroe-Trenton test. Northern Development Co.'s Burke 1, 17n-15w-26, sd 150 ft.

MISSISSIPPI

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, 13-7s-10w, sr td 2200 ft.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-12w, spd and sd.

LAMAR COUNTY—Snow-Black Pet. Co.'s Miller et al 1, 3-4n-15w, rur.

SPERRY-SUN WELL SURVEYING CO.

1608 WALNUT STREET, PHILADELPHIA, PA.

HOUSTON, TEXAS. TULSA, OKLAHOMA

AND LONG BEACH, CALIFORNIA

SURWEL (Gyroscopic) **H-K** (Open Hole) **SYFO** (Ink Bottle)

UNDERGROUND WELL SURVEYING SERVICE

MONTANA

JUDITH BASIN—Fletcher P. Hunt, Hobson 3, nw se ne 30-14n-15e, resume dr 350 ft.

FERGUS COUNTY—Emmons et al's 1, csw se 20-21-18e, dr 501 ft. Fenholt et al's 1, se nw sw 24-21n-17e, dr 125 ft.

TETON COUNTY—Teton Oil Co. (Jerome Drumheller) Reickoff 1, cne sw 14-24n-5w, fsg tools at 2411 ft.

NEW MEXICO

BERNALLILO COUNTY—Norins Realty Co. North Albuquerque Acres 2, cnw nw 19-11n-4e, dr 915 ft in red shale.

CHAVES COUNTY—Tannehill et al Campbell 3, cne se 1-11s-25e, dr 750 ft.

DEBACA COUNTY—Mid-Continental Engineering Co., State 1, nw se 27-4n-22e, ur 12½ in csg 560 ft.

EDDY COUNTY—T. J. Haley et al Rose 1, cne ne 28-24s-27e, dr 2323 ft.

GUADALUPE COUNTY—Anton Chico Development Co., Fee 2, nw ne 20-9n-17e, dr 350 ft in new hole.

McKINLEY COUNTY—Red Mountain Oil & Gas Co., Red Mountain 1, cne sw 21-20n-9w, rig on lcn. Montrose Oil & Gas Co., State 1, cne ne ne 28-20n-9w, dr 570 ft and pg. Lark Drilling Co. Santa Fe RR. Land 2, ne ne 29-20n-9w, dr 400 ft.

TORRENCE COUNTY—48 Petroleum Co. Greenfield 1, cnw sw 17-9-8, dr 1350 ft.

QUAY COUNTY—Quay County Development Co. Wallace 1, sw sw se 19-9n-33e, sd 816 ft. Danube Drilling Co., Will Wallace 1, cse sw 12-9n-33e, pg and abn 1218 ft.

UNION COUNTY—Quaker State Oil Co. Zurich 1, cn sw sw 2-21s-34e, resumed dr 200 ft.

LEA COUNTY—Amerada's State 1-K, c se nw 29-19s-37e, east edge Monument area, elev 3617 ft, base salt 2440 ft, cem 7-in cas 3815 ft. Barnsdall Oil Co. et al's D. C. Hardy 1, c se ne 29-21s-37e, elev 3470 ft, base salt 2420 ft, dr 3380 ft. Culberson-Irwin & Roy Stovall's J. B. Humphrey-Humble 1, c se sw 3-25s-37e, spd; John R. Stewart-Repollo 1, c sw se 10-25s-37e, run cas 600 ft. Crafton Oil Co.-Amon G. Carter's M. A. Hair-Humble 1, c sw nw 11-24s-37e, elev 3231 ft, top anhydrite 990 ft, top salt 1220 to 2455 ft, co after shot, td 3760 ft, est 40 bbl pumper. Gulf Oil Corp.'s Annie L. Christmas 1, c se se 27-22s-36e, elev 3521 ft, show oil 3675-95 ft and 3775 ft, dr 3815 ft; H. C. Collins 1, c se nw 14-21s-36e, elev 3568 ft, dr 2715 ft. Harry Leonard et al's R. T. Lanehart-Humble 1, c sw ne 21-25s-37e, elev 3079 ft, top anhydrite 965 ft, set cas, td 1290 ft. Maljamar O&G Corp.'s M. E. Baish 6, c nw se 21-17s-32e, Maljamar area, cem 10¾-in cas 2286 ft. Ohio Oil Co.'s State-Elliott 1, c nw se 30-19s-37e, elev 3621 ft, dr 550 ft. Plains Production Co.'s R. L. Mosley 1, c nw se 34-23s-37e, sp and sd; Geo. Smith-Humble 1, c se se 4-25s-37e, sp. Oil Well Drlg. Co.-Southern Pet. Exploration, Inc.'s State 1-A, c sw ne 29-19s-37e, rig. Repollo Oil Co.'s J. H. Williams 1, nec 33-19s-37e, east Monument area, elev 3587 ft, base salt 2530 ft, rust at 3800 ft, td 4158 ft, run tubing to test 2000 ft fluid in hole; Annie L. Christmas 1, nec ne 28-22s-37e, lcn. Republic Production Co.'s B. Davis 1, c sw sw 34-23s-36e, n Cooper area, lcn abnd. Samedan Oil Corp.'s C. U. Parks 1, swc s½ 14-22s-37e, lcn. Skelly Oil Co.'s J. U. Baker 1, c se sw 22-22s-37e, elev 3348 ft, run 7-in cas 3400 ft; B. L. King 1, c sw se 32-22s-37e, elev 3369 ft, dr 3260 ft; A. L. King 1, c se nw 4-23s-37e, elev 3331 ft, dr 310 ft; Hugh O. Simms 1, c sw ne 4-23s-37e, elev 3323 ft, shot 370 qts nitro 3474-3677 ft, td 3687 ft, flowed 90 bbls oil 20/64-in choke; R. R. Simms 1, c se se 4-23s-37e, elev 3306 ft, cem 7-in cas, td 3450 ft, rust; Edgar L. Steeler 1, c nw ne 17-23s-37e, elev 3333 ft, pb fr sul w at 3800-10 ft to 3783 ft, used 2000 gals acid and swabbed 15 bbls oil and 60 bbls w, pb to 3773 ft, tested water; pb to 3765 ft, testing. Skelly et al's B. F. Harrison 1, c nw sw 5-23s-37e, elev 3352 ft, top anhydrite 1190 ft, top salt 1290 ft, pb fr sul w in lime 3796 ft to 3762 ft, shot 870 qts 3491-3754 ft, swabbed rate 400 bbls oil daily, sd to pump. Warren L. Todd, Inc. et al's Lemon 1, c nw se 17-21s-32e, top anhydrite 990 ft, dr 2765 ft. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, top anhydrite 1474 ft, top salt 1506 ft, top brown lime 3465 ft, cem 7-in cas 3680 ft, Glorietta lime 4728-4729 ft, dry and abnd in lime 4794 ft.

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, sd 7325 ft.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, set 6-in csg 3759 ft, sd 3800 ft.

BEAVER COUNTY—Anderson-Kerr et al's Davis 1, csw se 36-5n-26 ECM, sd 6794, pb 6135, testing.

BECKHAM COUNTY—Wood Pet. & Royalty Corp.'s Blair 1, nw nw se 32-9n-26w, dr 1830 ft.

CADDO COUNTY—Denver P & R Co.'s Sah-Cam 1, cse se 33-10n-10w, sd 10,012 ft.

CARTER COUNTY—Texas Co.'s Cathey 1, se ne ne 6-5s-1w, td 4164 ft, 2000 ft fluid in hole. Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, td 7303 ft, recovered stuck dr pipe, reconditioning hole. Southern States Oil Co.'s Moore 1, ne se nw 30-4s-1w, dr 769 ft. Schermerhorn Oil Co.'s Floyd Clowdus 1, nw nw ne 2-4s-2w, td 1019 ft, est 10 bbls. Carter Oil Co. et al's Leon Voorhees 1, cse sw 34-5s-2w, lcn.

COAL COUNTY—Shell Pet. Corp.'s Hill 3, se se nw 30-3n-10e, dr 3362 ft.

COMANCHE COUNTY—George Pace et al's Spencer 1, sw sw sw 21-3n-10w, dr cement 1690 ft. John Nicholas' Hauseholder 1, ne ne sw 8-2n-10w, sd 960 ft. Mieling's Miller 1, ne ne sw 23-4n-12w, sd 530 ft. McCasland et al's Smith 1-A, sw sw sw 12-2n-10w, sd 1317 ft.

GARFIELD COUNTY — Sherry et al's Hoken 1, nw nw sw 32-20n-4w, sd 4555 ft. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, rur. Herndon Drlg. et al's Branson Community 1, sw sw se 23-24n-3w, dr 625 ft.

GARVIN COUNTY—Suggett & McElreath's Hyre 1, ne ne se 23-3n-1w, cored 3081-4093 ft.

GRANT COUNTY—Southern Oil Co. et al's Allen 1, sw sw se 36-26n-4w, sd 5505 ft.

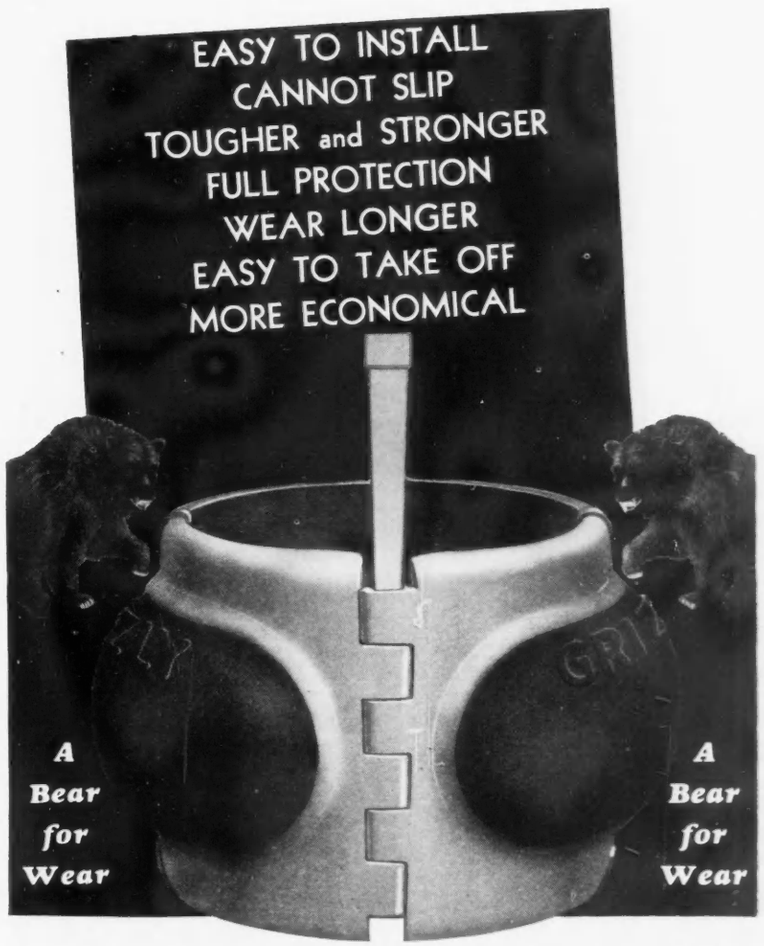
HUGHES COUNTY—Schumacher et al's Schumacher 1, ne nw ne 23-5n-10e, sd 1610 ft. Halsey's Eastep 1, nw nw sw 11-8n-9e, td 3454 ft, pb 3412 ft. Canavan's Meadors 1, ne se sw 5-8n-10e, td 3196 ft, co. Phillips Pet. Co.'s Eberle 1, ne ne sw 12-5n-9e, br.

JACKSON COUNTY—Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, dr 1530 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, rng 6⅝-in csg 1770 ft.

JEFFERSON COUNTY—Sinclair Prairie's Barrett 1, nw nw nw 31-5s-6w, dr 2640 ft. Campbell's Trout 1, se ne ne 6-8s-7e, sd 1314 ft.

KAY COUNTY—Black Gold Pet. Co.'s Cooley 1, ne nw sw 25-28n-4e, sd 875 ft.

KIOWA COUNTY—Beeler & Klein's Van-Kirk 1, ne ne sw 35-7n-15w, td 607 ft, D & A. Burns & Moore's Webster 1, cne ne 2-6n-17w, sd 458 ft. Shaffer et al's Slusher 1, nw sw nw 35-7n-17w, dr 680 ft. Beeler & Klein's E. Van-Kirk 1, sw nw se 35-7n-15w, td 609 ft, D & A.



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Adams et al's Stone 2-A, se se ne 34-7n-17w, dr 1040 ft.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, sd 1555 ft.

LINCOLN COUNTY — Stanolind-Amerada's Crawford 1, ne ne se 35-15n-2e, td 5243 ft, pb. Fred McDuff's Jacob 1, ne ne se 10-15n-5e, dr 2950 ft.

LOGAN COUNTY—Stanolind-Amerada and Eason's Gragg 1, sw sw ne 20-18n-4w, sd 5991 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, recovered stuck dr pipe, reconditioning hole. Russell et al's Scott 1, sw se sw 29-8s-2e, dr 2860 ft. Amerada-Stanolind's Westheimer 1, sw se sw 27-6s-2e, dr 6177 ft.

MARSHALL COUNTY—Smith's Chestnut 1, ne ne ne 23-8s-5e, sd 350 ft. Elmir-Gill's Lidecker 1, se se nw 7-8s-6e, dr 547 ft.

McCLAIN COUNTY — Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, dr 7039 ft.

McINTOSH COUNTY—I.T.I.O. Co.'s Toncred 1, sw sw ne 9-9n-14e, dr 3570 ft.

OKFUSKEE COUNTY—Manahan & Grisso's Dalton 1, se se se 36-10n-8e, td 1740 ft, 70 ft oih.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, td 6525 ft, est ½ million gas. Sinclair Prairie's Heavey 1, ne ne nw 17-13n-3w, sd 6925 ft.

PAYNE COUNTY—Pierce's Kiheag 1, sw sw sw 7-17n-1e, fsg 3218 ft. Denver Prod. et al's Pratt 1, nw nw nw 20-18n-3e, rog.

PONTOTOC COUNTY—Gypsy Oil Co.'s Emry 1, sw sw ne 15-2n-6e, dr 6117 ft. Mid-Texas Pet. Co.'s Harbet 1, sw sw se 30-5n-4e, dr 692 ft. Patsy Oil Co.'s Magnusom 1, sw se se 23-2n-7e, dr 4335 ft.

POTTAWATOMIE COUNTY — Magnolia Pet. Co.'s West 1, sw nw se 22-6n-4e, td 3735 ft, D & A.

ROGER MILLS COUNTY — Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, sd 6503 ft.

SEMINOLE COUNTY—Felmlee & Nichaelson's Belford 1, se nw ne 15-9n-8e, sd 1680 ft. Wood Oil & Dirickson's Ellis 1, nw ne ne 36-9n-5e, sd 3150 ft. Amerada et al's Community Stout 1, ne ne sw 3-10n-5e, rur. Imperial Drilling Co.'s Aldridge 1, sw ne nw 32-9n-8e, lcn.

STEPHENS COUNTY—Clyde Rhodes et al's Doak 1-A, sw sw sw 1-1s-5w, sd 400 ft.

TILLMAN COUNTY — Gulf Oil Corp.'s Wearmouth 1, se nw se 31-1s-16w, set 6 5/6-in csg 2970 ft.

EAST TEXAS

ANDERSON COUNTY — Burke Bros. et al's S. G. Moore 1 (36.3-ac) J. C. Rosson sur, Camp Hill area, lcn. Standard Oil Co. (Kan.'s) B. Hombs-Robinson 2 (57½-ac), John Adams sur, Long Lake area, mim. Sun Oil Co.'s Carl Rosson 2 (110-ac), W. T. Davis sur, Camp Hill area, elev 589 ft, dr 5085 ft. Comer E. Todd et al's W. T. Todd 1 (100-ac), A. B. Patton sur, sd in ws 1476-85 ft. Tide Water & Seaboard Oil Corp.'s Shaw-Cern 5 (1216-ac), Dan Parker sur, Long Lake area, elev 299 ft, Pecan chalk 3500-3700 ft, cor 5330 ft; M. J. Reagan 1, (214.8-ac), John Adams sur, Long Lake area, elev 244 ft, Pecan chalk 3544-3713 ft, Austin chalk 4636-4927 ft, top Sub-Clarksville 4988 to 5002 ft, top Woodbine 5220 ft, tested trace o&g with sw at 5299 ft, pb to 5269 ft to complete as gasser.

CASS COUNTY — American-Liberty Oil Co.'s D. A. Maxie 1 (86-ac), John Collum sur, Rodessa area, dr 1530 ft; Marcus Rambo 1 (86-ac), J. H. Rives sur, Rodessa area, lcn. R. W. Norton, Tr.'s Mary Rives 1 (85-ac), John Collum sur, Rodessa area, elev 277 ft, chalk 1895-2485 ft, top Red Beds 3394 ft, top anhydrite 5043 ft, top Hill sand 5606 ft, saturated lime pay 6045-6057 ft, cem 7-in cas 6002 ft, completed for big producer; Rives 2, lcn. T. H. McElvain et al's C. M. Beckett 1 (7.62-ac), John Collum sur, Rodessa area, lcn. United Production Corp.'s J. R. Jones 1 (70-ac), B. J. Murray sur, Rodessa area, cem 10¾-in cas 2167 ft; J. R. Jones 2, elev 207 ft, chalk series 1935-2580 ft, top Red Beds 3375 ft, dr 3980 ft.

COLLIN COUNTY—Port Bolivar Oil & Ref. Co.'s O. G. Durning-Clarkston 1-A, (140-ac), Wm. Creager sur, Pat. No. 1193, elev 722 ft, sd 3866 ft.

FRANKLIN COUNTY—W. C. Windsor et al's King & Hughes 1, Orlando James sur, Talco area, cem sur cas.

FREESTONE COUNTY—J. P. Haley & C. F. W. Young's Jack Eppes 1 (18-ac), David Bullock sur, 8½ mi se Teague, elev 471 ft, top Pecan chalk 2965 ft, Austin chalk 3761-4143 ft, top Woodbine 4556-4561 ft, sd to test.

GRAYSON COUNTY — Olson Drlg. Co.-Frank Gardner et al's SW Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, Trinity series from surface to 850 ft, Springer shale 850-1240 ft, Mississippian Caney shale 1240-4308 ft, fine grained sand 4308-4482 ft (with odor oil-gas 4441-82 ft), chert 4482-4637 ft, top Woodford shale 4637 ft, lost dp 4670 ft, pb to 3535 ft, re-drilled to hard sand with trace gas 4424-4430 ft, cem 8⅝ in cas 4426 ft.Port Bolivar Oil & Ref. Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HENDERSON—L. V. Marmar et al's I. W. Brown 1 (18¾-ac), R. H. Pearson sur, nw Cayuga area, lcn. W. McDougal et al's E. Price 1(216-ac), M. Mathews sur, lcn. Sparks et al's Theo. E. Berry 1 (167.8-ac), Aaron York sur, No. 847, 5 mi s Brownsboro, dk. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, elev 359 ft, sd 2800 ft.

KAUFMAN COUNTY—C. C. Pearson et al's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2402 ft.

LAMAR COUNTY — Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, elev 484 ft, sd 326 ft. North Texas Synd.'s D. M. Haynes 1, J. R. Craddock sur, 2¼ mi nw Emerson, dry and abd, td 1600 ft. J. A. Forester et al's J. F. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, cem sur cas. Portland Oil Co.'s J. M. Johnson 1 (96-ac), Luke Roberts sur, 1 mi w Deport, dr 2315 ft.

LIMESTONE COUNTY—C. F. Lytle et al's J. L. Thompson 1-T (141-ac), Pedro Varella sur, w Mexia field Trinity test, dr 3350 ft. Monte Oil Co.'s A. E. Rosson 1, blk 4, Pedro Varella sur, nw edge old Nigger Creek area, sd 1100 ft.

MORRIS COUNTY—Raycotuck, Inc.'s P. M. Stagegrs 3 (40-ac), J. D. Nelson sur, top Pecan chalk 2525 ft, dr 2730 ft. Steve J. Rotundi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, top Navarro chalk 2258 ft, sdo 4001 ft.

NAVARRO COUNTY—E. M. Thomason & Co.'s Estes Bros. 1 (58-ac), blk 11, Wm. Gilbert sur, 1 mi e Roane, top broken Austin chalk 1700 ft and top hard chalk 1750 ft, sd 1823 ft.

RAINS COUNTY—W. A. Allen, Geo. W. McClung et al's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, sd 117 ft.

RED RIVER COUNTY—J. S. Abercrombie Co. & Harrison Oil Co.'s T. L. Knight 1 (231-ac), Robt. Hill sur, 13 mi n Clarksville, elev 471 ft, dry and abnd in top Georgetown lime 1002 ft. Annona O&G Co.'s Leo. & Otto Roberts 1 (200-ac), James Bankston sur, 2 mi ne Annona, sd 160 ft. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, elev 478 ft, sd 825 ft. Mid-West Pet. Co.-Texas Oil & Royalty Co.'s Hocker-Hughes 1 (160-ac), M. E. P. & P. Ry. sur, lcn.

RUSK COUNTY—McCallum et al's E. C. Gary 1 (265-ac), John Piburn sur, 5 mi s Henderson, elev 338 ft, sp and sd. J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A, (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, fsh 3467 ft.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 3 mi e Van field, sd 180 ft. Sanders et al's Winona State Bank 1 (471-ac), Samuel Epps sur, ½ mi n Friendship, top Pecan chalk 2670 ft, Austin chalk 3796-3842 ft, trace gas in Woodbine sand 3863-3901 ft, td 3912 ft, dry and abd. Frank D. Staples-Edgar Hart et al's Luther Hale 1 (115-ac), T. C. Williams sur, 3½ mi nw Arp, elev 504 ft, top Pecan chalk 2925 ft, top Austin chalk 3750 ft, dry and abd in salt w sand 4265 ft. Winona Oil Corp.'s McClung 1 (23½-ac), E. Newberry sur, 1 mi e Winona, sd 1165 ft. Merrick Drlg. Co.-J. E. Gaut, Tr.'s W. P. Rushing 3 (50-ac), Jacob Herrin sur, elev 395 ft,top Woodbine 4325 ft, dry and abd 4501 ft, corrected depth.

TITUS COUNTY—C. M. (Dad) Joiner et al's Huernish Hrs. 1, Henry P. Banks sur, 12 mi e Talco, dk. R. L. Peveto, C. N. Housh, E. G. Thompson et al's C. M. Carr 1 (108½-ac), M. V. Delgado sur, 1¼ mi e Talco, elev 370 ft, Pecan chalk 1611-1788 ft, top broken Austin chalk 3011 ft, top hard chalk 3032 to 3212 ft, Woodbine series 3436-3866 ft, Del Rio clay 3866-3962 ft, top Georgetown lime 3962 to 4190 ft, Paluxy sand 4190-4208 ft, cem 8¼-in cas 4166 ft, sd to clear titles. Humble's Mary Grove 1 (82.9-ac), Ben Jones sur, 2 miles e Talco, mim.

HARRISON COUNTY—Eastern States Oil Co.'s Bivins 1, Wm. Pettus sur, rur.

PANOLA COUNTY — Meyers & Whitehourst's R. L. Williams 1, J. D. Sutton sur, sd 1950 ft. Neal et al's Rushing 1, Manning Smith sur, dr 901 ft shale.

SHELBY COUNTY—Farley & Sommers' Windham 1, Wm. Leach sur, sd 1400 ft. C. A. Parker et al's Windham 1, A. H. English sur, wocs 7-in csg, td 3225 ft. Potter et al's Polley Est. 1, Wm. Wisner sur, dr 1010 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. F. Henry sur, dr 3710 ft lime. Tarbud Oil Co.'s Pickering Lbr. Co. 1, Wm. Woodfin sur, perf csg with 45 holes 3440-85 ft, bailed sw, sd old td 5164 ft.

SOUTH TEXAS

ARANSAS COUNTY — Buckingham Oil Co.'s McCampbell 1, lots 8 and 9, sec 41; lots 8 and 9, sec 42, McCampbell subd. James Orick survey, 2 miles nw of Aransas Pass, 8 ft from San Patricio County line, sd 5208 ft for repairs.

ATASCOSA COUNTY—R. C. Lee, Trustee, (Atascosa Trust), U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 miles n Poteet, dr 1650 ft. W. B. Hinton's Weigand 1, 450 ft wl, 200 ft sl of tr in Donovan sur No. 145, lcn. R. McIntyre's (Cliff Oil) San Antonio Joint Stock and Land Bank (H. A. Billinck) 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, dr 2450 ft, depth corrected. L. L. Motes, Trustee's, Atascosa Co. Subd 1, 425-ac tr, John McNeill sur No. 1191, sd 894 ft.

BASTROP COUNTY—Franklin et al's Betty Lawhon 1, Standifer sur sw of Elgin, dk. G. E. Holmstrom's Brunridge 1, 600 ft sl, 150 ft wl Enoch Harris sur, 3 mi ne Elgin. G. B. Peterman's Z. C. Hemphill 1, Bymar sur, sd 2329 ft, chalk. A. W. Phillips' Vaughn Lumber Co. 1, 1110-acre tr, E. Sartuche sur No. 10, 5 mi ne Bastrop, sd 154 ft.

BEE COUNTY—Geo. M. Church's Webb-Hearn 1, in 92-ac lease, E. Ryan sur, 2000 ft se disc well Beeville field, sd 5935 ft, set 7-inch casing to bottom, perf 5900-14 ft, show some gas, oil, and sw; G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, dr 1550 ft. Clyde Echols et al's T. Plummer 1, 150 ft sei, 391 ft swl of F. J. Chessman sur, lcn. Dirks Bros.' J. R. Scott 1, J. Molina sur, but in J. M. Uranga Gr, 1 mi se Normana, dry and abnd 4775 ft. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 668, 4½ mi s of Normana, spud in and sd. G. M. Richardson et al's Mengers 1, center w 100-ac of W. R. Ryan 500-ac tr, Wm. Allen sur, near Tynan, pits dug to wait on rig.

BEXAR COUNTY — American Gas Co.'s Oliver No. 5, 400-ac tr M. F. Rodriguez sur, Gas Ridge, td 2996 ft, set 6⅝ csg 2250 ft, bad cement job, recemented. N. Anderson's Henry Fest 1, 18.75-ac tract, Rolen League & Labor survey No. 88, bailed 3 bph at 712 ft. Tom Anderson's C. J. Krause 1, S. McCullough sur, sd 105 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, sd 803 ft. J. B. Chew et al's Frank Bonkowski, Wm. McMinener survey, section 10, dr 270 ft on 1250-foot contract. Crouch & Shadrock's W. Kohler 2, 88-ac tr, A. M. Baerrera sur No. 58, dr 100 ft. Joe Deupree's R. S. Coffey 1-A, F. Rodriquez sur, 7 mi s San Antonio, td 1200 ft, recemented at 1059 ft, now bailing some oil. Wm. H. Russell 1, 723-ac tr, Fernando Rodriquez sur, 9 mi ne San Antonio, deepened from 1001 ft to 1075 ft, well heading 16 grav. oil, ru to pump. H. J. Moore's Mrs. Lena Eisenhauer 1, 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, sd 486 ft. O. M. Owensby's Minna Coreth 1, 284.04 ac tr, Adam Stafford sur No. 49, near Eckert field, sd 1240 ft, had gas show. H. A. Pagenkopf's Chas. Rittiman 1, 100-ac tr, J. Chappal sur, 12 mi ne San Antonio, near Kirby, top Edwards lime 1110 ft, dr 1860 ft. W. A. Schaeffer Co.'s P. J. Coimperlik 1, 102-ac tr, J. M. Bustillos sur, 16 mi e S. A., dk. H. B. Schumacher's Hilda Gillette 1, 49-ac tr in M. G. de Alamiz sur No. 20 and 7 mi south of San Antonio, dr 112 ft, shale. Trawalter & Umburn's Juan Escalera 1, 213-ac tr, Francisco Ricardo sur No. 6, dr 650 ft.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 3, 222-ac tr, Thomas Webb sur No. 91, 3 mi e of Blanco, sd 212 ft.

BROOKS COUNTY—The California Co.'s B. Garcia 1, tr No. 3, Las Mestina de Gonzalina gr, Alta Mesa dist, dr 3650 ft. Dick Young et al's Singer 1, ne¼ se¼ sec 312, cored cap 914-15½ ft, oil sand 915½-18 ft, dst failed, making new test.

BURLESON COUNTY — Walter Blumenthal's G. V. Crain 1, W. C. Pearce sur, ab 297, 1 mi from Milam County line, top pecan gap 4418 ft, dr 4650 ft.

CALDWELL COUNTY—Pat Armstrong et al's No. 1, N. Dunlap Est, 431 ac Farm in S. Seal sur, sd 21 ft. Detroit-Texas Dev. Co.'s W. P. Dunlap 3-A, S. F. Sanders sur, Dunlap area, sd 2390 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e of Luling, sd 27 ft, for orders. Exploration Dev. Co.'s (Fred Meyer) W. R. Eibaud 1, 57-ac tr, S. Seal sur, Dunlap area, dk. Joe Graham's Martindale 1, S. Morrison sur, e of Staples, sd 475 ft. W. C. Jenning's McMahan 1, James Pinchback sur, se of Lockhart, dr 680 ft, gas show 650 ft. Marts & Beaven's J. J. Jolley 1, E. Pettus sur, midway between Lockhart and Lytton Springs, dry and aband, 1566 ft; G. Mackey 1, 201-ac tr, G. Pace sur, dr 980 ft. Ogden & Reed Oil Co.'s R. B. Vickrey 2, 100-ac tr, S. Damon Survey, 2 mi se of Dale, coring 1920 ft. Fred G. Scott's E. P. Dunavent 1, 4 mi se San Marcos, sd 135 ft. Sterling & Wilson's M. L. Strawn 1, Pablo

Martinez sur, at Lytton Springs Townsite, sp. M. R. Tinkle et al's Arnold 1, S. Seal sur, Dunlap area, lcn. E. E. Tullos's Walker Bros. 1, 600 ft el, 750 ft sl of Farm, A. Floyd sur, dry and abnd 850 ft.

CALHOUN COUNTY—Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2-A (3), sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, td 9083 ft, set 5¾ inch csg on bottom, collapsed cleaning hole. Crown Central Pet. Co. et al's M. C. Driscoll 1, lot 24, Armstrong Ranch sub., Benito Moralles sur A-28, ru. Humble & Plymouth's Patrick H. Welder 1, 10,000-ac lse, Gardner Smith sur, sp.

CAMERON COUNTY—W. T. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi n Bayview, sp and sd, wor.

DE WITT COUNTY — Hill Brothers & Koontze's Herman Riedel 1, 535, 5-ac tr, J. Santos sur (6 mi se Yorktown), dr 4030 ft. Universal Oil and Glaspie's Schubel 1, C. Fitzgerald sur, ab 2 mi nw Yoakum, dr 810 ft.

DUVAL COUNTY—J. H. Chandler's Rita S. de Pena, Pena tr, sh 4, Mesquite gr, sand 2808-24 ft, sandy shale 2824-32 ft, oil odor, coring 2855 ft. Continental Oil Co.'s Clara Driscoll Sevier 8-A, in sec 50, Santa Rosalia gr, sand 3460-65 ft, set 7 inch csg 3460 ft, dr plugs. Charles Daubert et al's D. F. Kreis 1, sec 518, 6 mi e Loma Novia, sd 1900 ft for water. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, dr 4108 ft. Howard Pet. Corp.'s G. Ruiz 1, sec 5, e of Loma Novia, 4000 ft test, prep to move in, contract let. Humble O&R Co. No. 1 L. & P. T. Wright, se¼ of sec 118, 1 mi n of Seven Sisters field, testing 2535 ft. Marzo Oil Co.'s E. R. Hagist 2, sec 269, 480 ft e No. 1 Hagist, Hagist area, swabbing. W. C. McBride, Inc.'s E. R. Hagist 1, blk 13, sec 267, swabbing 2125 ft. Pitkin & Goldston's Bishop Land Co. 1, 330 ft nl and el of s½ sec 57, dry and abnd 2852 ft. Porter & Sterins' Sutherland 1, 330 ft sl and el of sec 126, Hoffman area, lcn. Rancho & Gem Oil Co.'s Bishop Cattle Co. 1, 330 ft sl and wl of sec 70, 1 mi n Hoffman field, lcn. Rogers & Rogers Cuellar 1, sec 117, Hoffman area, recompleting, set 7 inch csg 2852 ft, Loma Novia sand 2854-71 ft; Sophie Hoffman 1, sec 118, Hoffman area, tested gas in Gov't Wells sand 2735 ft, show about 5,000,000 cu ft volume with 500 lbs. rock pressure in 5 minutes, coring ahead; Sutherland 2, 1267 ft sl, 1080 ft el of lease, sec 120, 1150 ft nw Sutherland 1, lcn. Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Book Ranch (O. G. Glasscock) in Book Ranch in Santa Cruz de Concepcion gr in extreme southeast portion of county on 9829-ac tr, 6000-foot test, dr 3770 ft.

EDWARDS COUNTY — Paul Teas' J. B. Stewart 1, sec 2, GC&SF sur, 14 mi se Rock Springs, sd 1872 ft.

FRIO COUNTY—Amerada Pet. Corp.'s Cory & McWilliams 1, tr 13, Jose Arocha sur No. 298, 2¾ mi sw Smith 1, td 5569 ft in Austin chalk, 7 inch csg set 5434 ft, fsh for swab; Cory & McWilliams (tr 3) 1980 ft sl, 746 ft el and wl of tr 3, Jose Arocha sur 299, sp; Cory & McWilliams (tr 6) 660 ft sl (road), 728 ft el and wl of tr 6, Arocha sur 298, sp; Cory & McWilliams (tr 17) 660 ft nl (road), 721 ft el and wl of tr 17, J. M. Tijerina sur 300, set sur csg, woc. Halff & Oppenheimer 5, S. Glenn sur No. 335, Pearsall area, td 5362 ft, set 7 inch csg 5275 ft, dr plugs; Halff & Oppenheimer 6, San Antonio Ditch Co. sur 1104, td 5408 ft, setting casing. Thornton Davis et al's Halff & Oppenheimer 1, J. D. Clark sur No. 336, 1 mi w of Pearsall field, dr 4360 ft.

GOLIAD COUNTY—Jane Oil Co.'s (Diamond Half Oil Co.) Gillett 1, J. Gomez sur, extreme western corner of county, 1 mi e North Pettus field, comp on pump, 3707 ft; No. 2 Gillette, of 745 ac tr, J. Gomez sur, 660 ft e No. 1, lcn. H. J. Porter et al's J. R. Kaufman 1, 40-ac lse, A. Trevino sur, 1000 ft e of Kaufman 1-C, Hords Creek, lcn abnd. Port Isabel O&G's Dauderstadt 1, in Solomon Hall sur in e end of county, 5500-foot test, dr water well. Thompson Drlg. Co.'s J. E. Pettus 1, in Maria de Jesus Y Bravo gr, 1100 ft se Stanolind No. 1, 12 mi nw Goliad, ru. Aeni Oil Co.'s (was S. T. Potter et al) Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, ru and sd.

GONZALES COUNTY—O. M. Owensby et al's H. B. Steen 1, N. M. Bane sur, dr 2165 ft. Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, sd 1058 ft, shale.

GUADALUPE COUNTY—Paul Armstrong's Clem Brodnaux 1, 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, sd 1510 ft shale. Clark & Gay's Waldrip 1, center 1½-ac tr in Staples townsite, G. Allen sur, sp. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green Dewitt sur, 3 mi se South Darst Creek, Edwards lime test, dr 250 ft. A. C. Locke's Holmes 1, 26-ac tr, Cyrus Campbell sur, 2 mi n and w of Staples, dr 530 ft; J. S. Slaughter, C. Campbell sur, sd 1050 ft. R. C. Robbins' Mrs. J. W. Manford 1, James Hodges sur No. 374, 1250 ft e Manford pool, comp on pump. Fred G. Scott's F. P. Pooley (Walter Schultz) 1, 2 mi s Staples, dr 195 ft. H. P. Suggs & L. R. Reedy's J. H. Sherrill 1, 100-ac lse, Geo. Allen sur (1½ mi e of Staples), dr 816 ft. W. J. Walton et al's Antone Zoboroski 3, ne corner of 227-ac tr in Joseph D. Clements sur, set csg 2160 ft, dr out plugs.

HIDALGO COUNTY—Dean Brothers' Mrs. Lula B. George 1, tr 13, porc 41, Reynosa Juris, 7000 ft e of discovery, 700 ft n of Samfordyce production, ru. Gerald O&G Co.'s Nelson Mortgage Co. 1, blk 38, lot A, La Blanca Agricultural subd, about four miles south of City of Donna, sp and sd. Gulf States Oil Co.'s Delta Orchards 1, lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field disc well, dr 5525 ft. J. C. Engelman 3, lot 3, blk 70, Las Mestinas gr, 700 ft e of Mestinas field disc well, lcn. Kingwoods Oil Co.'s Osca Daskam 2, blk 30, porc 45, 10 mi ne Mission, dk. Maddox & Tatum's John H. Shary 1, tr 48-2, porc 53, Reynosa Juris (abt 7 mi n and 1 mi w of Mission), dr 4850 ft. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 1, lot 11, blk 20, Alamo Land & Sugar Co. subd, Alamo gr, 4 mi s Alamo, testing 735 ft H. J. Porter et al's C. H. Swallow, lot 5, Swallow sub, Minnesota-Texas Land & Irrigation Co. tr, s Alamo, spud and sd. Quintana Pet. Corp.'s John C. Engelman 1, e½ of lot 10, blk 94, Mestinas gr, 4 mi se of Gulf States No. 1, Engelman, dr 3325 ft. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, sd 1800 ft, set 150 ft 8¼ csg. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59, about 4000 ft e of Mercedes field, coring 7594 ft; No. 8 ARGL Co. tr 2120, blk No. 87, N. Capisallo district, dr 5450 ft.

JIM HOGG COUNTY—French Oil Corp.'s E. Rodriguez 1, sh m-1, Partition of Las Cuevites gr, dry and abandoned 2775 ft. S. L. Miller Oil Co.'s Yeager 1, blk 6, sur 20, dry and abnd 4130 ft. P. H. Neilson, Trustee, de la Garza 1, blk 293, Pippin sub, Randado gr, sd 610 ft. G. C. Rankin's Vela L, blk 6, sec 5, sd 1911 ft.

JIM WELLS COUNTY—Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam sub, sh 3, San Diego gr, ½ mi n disc well, San Diego field, td 5000 ft, ru new rotary. O. W. Killam's George Reynolds 1, s¼ of survey 28, J. Harper, grantee, 3 mi w of Orange Grove, ru. Henry Mode's B. W. Owens 1, 120-ac tr, J. Poitevent sur 151, ab 366, 2 mi s Alfred, dk. G. M. Richardson's No. 1 J. E. Garrett, sec 5, N. G. Collins grant, 15 mi n of Alice near Highway 66, lcn abn. J. E. Walsh's W. D. Wade 1, lot 3, blk 6, W. H. Bode sub, Sandis district, sd 2920 ft, may deepen to 4000 ft.

KLEBERG COUNTY—Clark & Anderson's J. W. Kellam 1, lot 7, sec 53 KT&I sub, 2 mi se Kingsville field, sp and sd.

LAVACA COUNTY—J. D. Aiguier et al's No. 1 A .A. Staffa, W. R. Henesy sur, 3 mi s of nl of county, sd 2330 ft.

LIVE OAK COUNTY—Dirks Brothers' J. R. Dougherty 1, J. Beagle, 6 mi w of La Garto, dk, wait on rig. R. H. Feltner et al's John T. Carter & Bros. 1, nw 120-ac of w 160-ac of sec 319, T&T Ry. Co. survey in extreme sw portion of county, near Sangor Ranch test, dr 2210 ft. Houston Oil Co.'s Mrs. C. L. Cartwright 33, 1172 ft n of No. 21, 880-ac tr, Francis Botello sur, dr 3675 ft. Ogden & Reed's D. C. Reed 1, Clogg Ranch, sw part of county, dr water well. Santa Clara Oil Co.'s (Atkins & O'Neil) R. H. Corbett 1, Corbett sur, dry and abnd 4017 ft. L. W. Stieren's Smith 1, 181-ac tr, T. B. Reese sur, 6 mi e Oakville, dr 2800 ft.

MAVERICK COUNTY—I. N. Boicourt's Bandera County School Land, sur No. 231, 1 mi sw of Darling, dr 220 ft. Fulwood & Merr's State Bank & Trust Co. 1, GC&SF sur No. 3, 2 mi n of Eagle Pass, sd 770 ft. Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Darby Petroleum's Hagist 2-B, AB&M sur No. 181, lcn. Thornton Davis et al's (Whisenant and Trenchard) Roos Bros. 1, sur 93, 3 mi e and n of Loma Alta field, dr 460 ft. F. Daybault's Matula 1, 100-ac, James Garner sur, 2½ mi sw Calliham, dr 1018 ft. Charles A. Hall No. 2 Claunch, 200-ac tr, M. Hely sur, ¼ mi s Calliham, 400 ft se No. 1, sd 930 ft. Magnolia Petroleum Co.'s Kincaid 1, sec 86, 3 mi e of Texio well, dr 895 ft. W. E. Rowe's Lee 1, sw cor of ne¼ of se¼ of sec 34, La Chusa Land Co. sur, mim. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 2½ mi sw Tilden, sd 2250 ft. Ike W. Taylor's H. L. Lark 1, blk 56, Lark sub, E. W. H. Scrugham sur, between Calliham & Jacob field, td 980 ft, sand 967-77 ft; comp for 64 bbls 20 hours on pump. Witherspoon Oil Co.'s Calliham Estate 1, blk 11, M. Heyl sur, ru.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, sd 700 ft; Mary Win 1, John Ward sur, td 60 ft, set sur cas and sd. W. C. Campbell et al (Ed Falvey et al's) McMenemey 1, sur No. 331, G. Petty sur, 4 mi se Devine, td 2892 ft, pb to 2230 ft, set csg at 1910 ft, sand shown on electric formation test, 1918-2230 ft, bridged over, running liner. Caraco Oil Co.'s Taylor 3, Brushet sur 135, td 356, prep rework. Gates & Hill's W. B. Odom 5, 160 ft wl, 300-ac tr, H. Castro sur No. 174, 5 mi sw Hondo, dr 160 ft.

MILAM COUNTY—R. G. Cannon's H. & L. Ludson 1, 100-ac tr, S. C. Robinson sur, sp and sd.

NUECES COUNTY—Allen & McCormick's W. B. McBurnett 1, 660 ft nl, 330 ft el, lot 2, Roberts & White subd. of Robt. Shallert Ranch, 5000-foot test, sp. J. H. Coker & Lee Bros. Oil Co.'s A. J. Geistman 1, 660 ft wl, 300 ft nl of 60-ac tr, J. Ward sur 316, dk. Culton & Republic Nat. Gas Co.'s 1-C Baldwin et al, 330 ft nl and wl of blk 13, J. C. Russell Farm lots, bldg dk. D. H. Hawn's Wm. Shely 1, center of 9-ac tr about 2500 ft ne Saxet Heights field, 2220 ft due s of Chemical plant, Villareal survey, td 4029 ft, attempt dst 4084-92 ft, tool slipped to 4087 ft, recovered 2 fourbles salt water some mud and sand, set csg on bottom, woc. Dr. C. W. Skipper 1, 16-ac tr, E. Villareal sur, lcn. Refugio Refining Co. (Garland Clymore) Jones Weil 1, 80-ac tr, Villareal sur, 1 mi se Saxet Heights, sd 4500 ft. Santa Clara Oil Co.'s (Atkins & O'Neil) C. H. Cooke 1, sec 14, Guadrilla Irrigation Co. sur, 4 mi e Driscoll, dr water well. Southern Minerals Alkali Plant 1, 330 ft swl, 243 ft sel of tr, E. Villareal sur, and 1100 ft nw of Hawn No. 1 Shely, digging pits and mim. Taylor Refining Co.'s John Dunn 1, 53-ac tr Villareal sur, dr 3680 ft. Thompson & McGrew's A. F. Geistman 1, 120-ac tr, in J. R. Ward sur 316, offset to Nelson No. 1 Buckholt, lcn.

REFUGIO COUNTY—Quintana Pet. Corp.'s Fannie Heard 1, Thomas Webb sur, ab 298, 3 mi e of Greta field, 1 mi n Tomoconnor, bldg dk. United Prod. Co.'s M. F. Lambert 22, blk 22, C. A. Hardwick sur, elev 65 ft, dd, td 6538 ft, cored sw sand 6502-38 ft, pb 5450 ft, sdtr, td 5549 ft, dry and abandoned.

SAN PATRICIO COUNTY—Argo Royalty Co. & Willis Storm's Nancy Hobbs 1-A, 215 ft nw No. 1 Delgado gr, 1 mi s Mathis, wait on rig. Benedum & Trees' Mrs. E. H. Welder 2, 1600 ft sl and el of sec 19, Welder Ranch subd, 3¼ mi ne Sinton, dr 1220 ft. Benedum & Trees' Jones 1, 990 ft sl and el of nw¼ sec 65, George H. Paul's subd of Coleman-Fulton Pasture Co. Lands, 3 mi e Whitepoint field and 4¼ mi nw of Portland. Esnes Oil Co.'s (George E. Smith) J. L. Britton 3, 990 ft nl, 330 ft wl of 160-ac tr, sec 6, blks 7 and 8, 2nd subd of Taft Farm Lands, lcn. Humble Oil & Refining Co.'s J. W. Godwin 1, lot 1, sec 23, third addition, Taft Farm Lands, dry and abandoned 6352 ft; No. 2 Godwin 210-ac tr, Taft Farm Lands, sec 23, lcn; J. W. Mayo 1, J. N. W. Ottman sur, sp. Nobod Royalties Inc.'s (Texon Drlg. Co.) R. L. Rambo 1, lot 6, sec 35, 4th addition Taft Farm Lands, ½ mi e of s end of Plymouth field, ru. Hiriam Reed et al's (Herman Heep) R. Svedlenak 1, lot 1, sec 5, first addition, Taft Farms Lands,

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805 2ND. NATIONAL BANK BLDG.—HOUSTON
San Antonio — Washington, D. C.

1½ mi s Taft discovery, dr 5920 ft, sw sand 5918-20 ft. Shell Pet. Corp.'s G. W. Pullin 1, sec 1, second addition Taft Farm Land, w offset Taft field discovery well, lcn. Geo. E. Smith et al's J. L. Britton 2, 660 ft due e No. 1, blk 8, sec 5, third addition Taft Farm Lands, dry and abnd 4952 ft. Stanolind O&G Co.'s Floerke 1, lot 5, blk 17, first addition Taft Farm Lands, 4 mi s and e of Taft field, sd 5080 ft for repairs. Willis Storm's Nancy Hobbs 1-A, 622 ft nwl, 621 ft swl of 50-ac tr, digging pits, contract let to Rowan & Hope for 7000-foot test. Sun Oil Co.'s M. K. Edgar 2, sec 34, Fourth Addition, Taft Farm Lands, Plymouth area, dry and abandoned 7030 ft.

STARR COUNTY—Ash & Tackett's R. E. Margo 1, blk 4, sh 3-B, porc 70, Juris of Mier, sd 378 ft. O. G. Borah et al's V. C. de Guerra 1-A, sh 92, porc 68, 2 mi n of Roma, sd 260 ft. John H. Clopton's Kelsey Bass 1, center sec 357, 8 mi s of Cuevitas, dr 2305 ft; No. 2 A. K. Bass, sec 377, 1½ mi s No. 1 Bass, drlg. Coreta Pet. Co.'s J. H. Burnett (Heden et al) 1, sh 47, porc 80, sd 1500 ft. Griffin & Kimbrough's Guerra 1, sh 298, porc 69, n of Mier, lcn. Harter & Maynow's Sanchez 3, sh 69, porc 72, n Roma, sd 512 ft. Marc Jenkins' Wm. Martin 1, sec 627, 13½ mi ne of Rio Grande City, sd 775 ft. Sun Oil Co.'s Chapatala Land Co. 1, 304 ft n and 330 ft w of sw corner of Porter "B" lse, but in porc 99, 600 ft w of prod, lcn. A. F. Vannoy et al's (Marc Jenkins et al) H. Garza Jr. 1, blk 10, sh 26, porc 70, nw of Roma, td 910 ft, dry and abnd. A. J. Wayel's Wardner 1, 160-ac tr, porc 84, td 2149, aband, ran wild, made gas and sw. Otto W. Woods H. P. Guerra 1, lot 35, Conroe subd, porc 55, Mier Juris, spud in and sd.

TRAVIS COUNTY—Albrecht & Brinkrueger, Sr.'s M. C. Swenson 1, 75-ac tr, L. Kimbro League, sec 5, sd 310 ft. G. A. Artz & Co.'s Wolff 1, Thomas Hancock sur No. 20, ½ mi n New Sweden, underreaming 6⅝ inch csg at 1160 ft. Walden Oil Co.'s P. C. Willis Est. 40-ac tr, J. Kemp sur, top chalk 892 ft, dr 933 ft.

VICTORIA COUNTY — Barnsdall & Felmont's W. R. Smith 2, A. Murray sur, ab 259, Placedo field, dr 5625 ft. Costa & Eastern Texas' Kruppa 1, Rupley sur, ab 290, cutting and pulling ds. Guiberson & Chas. Pettit's Oscar Wedemier 1, 405.82-ac tr, Jose Carabajal sur, 4 mi nw of Victoria, dr 5720 ft. Rowan & Hope's A. W. Scheel 1, Scheel 195-ac tr in J. N. Escalera gr, lcn. E. L. Smith & Gulf Prod. Co.'s S. E. Wright 2, J. M. Brownson sur No. 8, Placedo area, td 6085 ft, blew out, ran wild, blowing gas, oil, sand and sw, still out of control. S. C. Yingling's Jacob Stehle 1, 15-ac tr, P. Gallardo sur, ab 32, 1 mi sw of Coleto Creek field, dr 4250 ft.

WEBB COUNTY—Foster Barnsley's C. H. Webster 5, ne¼ of sw¼ of sur 684, sd 2965 ft. Mills Bennett's M. de Perez 1, s 1/3 of w½ of sur 709, abandoned 3504 ft. Cole Pet. Co.'s Ross Benavides 93, blk 10, sec 7, Cole sub, Cuellar grant, Cole district, td 3411 ft, pb and set 7 inch csg 2400 ft, perf 2294-2300 ft, comp 40 mcf gas per day and rp 480 lbs. I. Howard et al's A. Lopez 1, sec 2350, se Lopez field, show sw with little oil 2276-88 ft, junked and abnd 2317 ft. O. W. Killam's A. M. Bruni 45, sec 453, td 3012 ft; pb and set csg at 1795 ft, dr plugs. A. M. Bruni 46, sur 455, dk. A. M. Bruni 6, tr B-7, El Ranchito 6723.5-ac tr, J. V. Borrago gr, td 300 ft. set 1 jt of sur csg. Payne & Martinez's Mrs. M. P. Perry 1, sur 771, lcn. Holland S. Reavis's C. H. Webster 1, nw ne sec 684, 1 mi e Carolina-Texas field, dry and aband, 5527 ft. S. S. & B. Oil Co.'s Lone Star Construction Co. 9 (now Lutex Oil Co.), porc 12, ½ mi nw of Laredo, sd 2004 ft. South Texas Oil Co.'s Fee 1, blk 21, sec 768, 1½ mi sw Laurel field, sand 1728-42 ft, 7 inch csg 1729 ft, swabbing. Southwest Drlg. Co.'s Rufino Lopez 1, 330 ft sl and wl of ne¼ of sur 139, 4 mi n and e of Bruni and 5 mi s of Lopez field, ru Diesel rig. Superior Oil Co.'s A. S. Billings 1, sec 7, 1 mi w Lopez field, td 3420 ft, perf 2246-51 ft, comp 15 mcf of gas, spray of oil, tp 275 lbs. cp 300 lbs. W. H. Vernor, Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, dr 995 ft.

WILLIAMSON COUNTY—Fritz Fuchs' A. Bracker 1, Mahon sur, dr 1230 ft. Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. H. E. Goff's Chas. Patschke 1, 110-ac tr in Foley sur, dry and aband, 255 ft. Holdeman, Nations & Hornberger's H. F. Teggeman 1, sec 4, H&TB Ry. sur, 2 mi nw Thrall, dr 510 ft. Maude Kelley's Paul Horn No. 1, on 56-ac tr in John Bevil sur, lcn abn. G. A. Ripley's L. Malmquist 1, 105-ac tr, P. J. Wyche sur, 1¼ mi se Coupland, sp. Taylor Refining Co.'s Christianson 1, 150 ft nl and el of tr, R. B. Bissett sur, dr 930 ft.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr in Conception Botello sur, 4 mi Poth, sp and sd. A. G. Reimenschneider's Lon Harrell 1, 209-ac tr in Manuel Baerrera sur, 5 mi s of Floresville, dr 783 ft.

ZAPATA COUNTY — Murt Cullinan's E. Gutierrez 1, blk 4, sh 2, Fansler Partition, Comitas gr, 2 mi Escobas field, sd 2014 ft. J. J. O'Hern et al's S. Heal 1, blk 3, porc 27, 7 mi ne of Charco Redondo field, dr 2332 ft.

ZAVALLA COUNTY—W. L. Bridges' E. B. Flowers 1, sec 19, blk 1, I&GN RR sur, sd 304 ft. Frank Buttram et al's Whitecotton 1, B&M sur No. 1, mir. Leona Oil Corp.'s George West 1, C. Bustillo sur No. 1, spudding.

TEXAS GULF COAST

BRAZORIA COUNTY—Gulf's Fairfield 1, Sandy Point prospect, A. Robeson sur, dr shale 5744 ft. Strake Petroleum Co.'s Poole 1, Poole Ranch prospect, W. Eggers sur, dr surface clay 95 ft.

BURLESON COUNTY — Walter Blumenthal's Crain 1, se of Rockdale, W. C. Pierce sur, finished fsh at 5032 ft, preparing to drill ahead.

CHAMBERS COUNTY — Black Gold Pet. Co.'s Barrow 1, Jackson Lake prospect, R. Barrow sur, dr shale 7835 ft.

COLORADO COUNTY — Coyle-Concord's Powell B-2, Garwood area, I&GN sur, setting screen 5934 ft.

GALVESTON COUNTY—Sun's Hughes 1, Green Lake prospect, W. C. M. Baker sur, woc 8596 ft.

HARDIN COUNTY—Republic Prod. Co.'s Burrell Fee 1, n of Silsby, A. A. Burrell sur, sd 7782 ft.

HARRIS COUNTY—Cockburn Oil Corp.'s Thompkins 1, Burnett Bay prospect, N. Lynch sur, dr salt water sand 6523 ft. Glenn H. McCarthy's Houston Ship Channel 1, Cockburn prospect, R. R. Vince sur, dr 5486 ft. H. C. Hill's Swilley A-1, Sheldon prospect, V. Blanco sur, dr shale 7058 ft; same operator's Swilley B-1, V. Blanco sur, sd 7566 ft.

JEFFERSON COUNTY — Glenn H. McCarthy's B. M. Longe 1, Amelia prospect, H. Williams sur, coring sand 6118 ft. Sun's Broussard 1, Labelle area, B. Blackmon sur, woc 7340 ft.

MATAGORDA COUNTY—Hammon Exploration Co.'s M. Cleveland 1, se of Bay City, E. Hall sur, tested salt water 9432 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, cutting and pulling at 7816 ft. Sun's Craig 1, e flank Hawkinsville dome, T. Williams sur, dr shale 5437 ft.

MONTGOMERY COUNTY—Chapman & Smith's Delta Land Co. 1, Dacus prospect, T. Sheppard sur, dr shale 1801 ft; same operator's Delta Land 2, 1¾ mi w of No. 1, dr shale 1835 ft. Chas. Gholson's Johnson 1, nw of Willis, W. Weir sur, dr shale 214 ft. Jack Frazier's Maxey 1, Goodwin area, J. Brown sur, preparing to spud. Wm. Thompson et al's Scott 1, F. Wheeler sur, abn 3674 ft. West Production Co.'s Foster Lbr. Co. 4, se of Conroe, T&NO sur No. 4, abn 5816 ft.

ORANGE COUNTY—Blue Line Oil Co.'s Peet 1, n of Orange, R. Ballew sur, sd 2695 ft.

POLK COUNTY—J. T. Lightfoot's L. Davidson 1, ne of Corrigan, Houston County School Land sur, dr shale 1562 ft. Daily & Boeauden's Knox 1, F. Chair sur, no report.

SAN JACINTO COUNTY—Cockburn Oil Corp.'s Moore 1, n of Rayburn, J. F. D. Rumayor sur, abn 5053 ft.

WASHINGTON COUNTY—W. D. Twichell et al's Hoxie 1, S. Clampit sur, dr sand rock 450 ft.

WHARTON COUNTY—Pure's E. Paige 1, Blue Basin prospect, J. Pirie sur, sd 7676 ft. A. C. Cockburn et al's Connor 1, Leach prospect, E. T. & R. R. survey, sec 73, dr surface 300 ft.

WYOMING

CARBON COUNTY — General Petroleum Corporation, Union Pacific 1, sw nw 5-19n-83w, first report, Overland Dome structure, lcn. General Petroleum Corporation, Whitford 1, sw se se 24-20n-84w, shot off 8⅝ in csg at 4200 ft with csg set at 5500 ft and pulling string preparatory to pgb and testing General Petroleum series. Drill stem test 6359-6400 ft in lower Sundance yielded 105 ft of water and drilling mud. Second test 5922-50 ft in Lakota and basal Dakota showed water and drilling fluid.

Oil Handling Equipment

A. Y. McDonald Manufacturing Company, Dubuque, Iowa, recently issued catalog No. 12, describing its line of equipment for handling liquid petroleum products.

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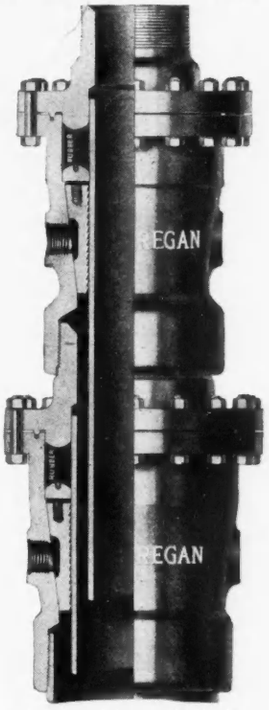
CONTROL HEAD
Regan Forge & Engineering Company

Regan Forge & Engineering Company, San Pedro, California, has announced a slip type control head that is made in two models. It was developed to take full advantage of the physical and mechanical properties inherent in average wells.



Regan Control Head

Weight of the successive strings of casing is used to assist the bolts in packing off the pressure between the strings. The flanges, being in contact with the packing unit, give an operator the advantage of being able to adjust the packing from the outside at any time. Any increase in pressure between the strings is automatically handled by a lower packing ring, which under the action of the "between string" pressure, acts as a piston and increases the outward and inward pressure of the lips of the packing rubber against the inner casing and against the wall of the control head, the manufacturer claims. This head, known as the "B G Slip Type," is furnished in two models—spool type and male and female type. The spool type is for conditions where there is no variation in the casing program. The male and female type is for fields where conditions are not definitely known and casing programs may vary. These are furnished for 3000- and 6000-pounds test pressures.

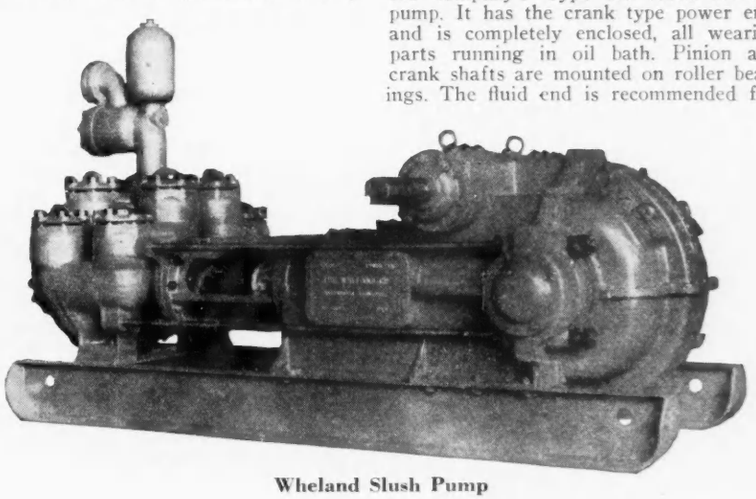
PIPE STRAIGHTENER
The New Deal Specialty Company

Supplementing its line of pipe cleaning and pipe straightening machines, The New Deal Specialty Company, Okmulgee, Oklahoma, has supplemented its line of pipe cleaning and straightening machines with the Model "E", "Big Shorty" pipe straightening machine which is specially designed to straighten rotary drill stem and kellies, as well as slightly bent pipe. The new machine is, as the name implies, a short, squat, sturdy machine, five feet high on a six-foot frame, with a 12-inch ram stroke, that exerts a pressure of 45,000 pounds. It is a hand operated model, of unusual strength compactness and portability.

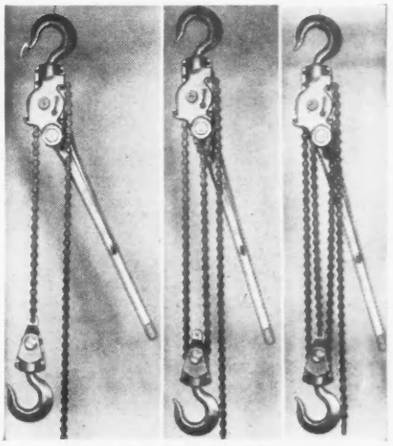
"Big Shorty" is a special model designed for those who operate over a widely scattered territory, and where equipment must be transported often at minimum expense. It can be easily moved from rig to rig or from field to field.

SLUSH PUMP
The Wheland Company

The Wheland Company, Chattanooga, Tennessee, has announced the addition of a new power slush pump to its line of equipment. The new pump will be known as Type HP-11000, 7¼ x 14, and of the same general construction and design as the company's Type HP-15000 7¾ x 18 pump. It has the crank type power end, and is completely enclosed, all wearing parts running in oil bath. Pinion and crank shafts are mounted on roller bearings. The fluid end is recommended for 2000 pounds working pressure. The new pump, along with other Wheland-Lucy rotary drilling equipment, is distributed by Lucey Products Corporation, Houston Oil Field Material Company and Murray-Brooks Hardware Company, and export distribution is through Lucey Export Corporation of New York and London.



Wheland Slush Pump



C-R-C Pipe Line Special

PIPE LINE HOISTS
Crutcher-Rolfs-Cummings, Inc.

Crutcher-Rolfs-Cummings, Inc., Esperson Building, Houston, has announced development of a new and more powerful hoist for pipe line work. It was designed to withstand the rough usage for field work, and being light the hoists are portable and easy to handle while raising and lowering pipe. The hoist will stand a 100 percent overload, the manufacturer claims, and each unit can be converted for two-ton, four-ton or six-ton load by simply changing the chain hook-up. The hoist was developed by Coffing Hoist Company, Danville, Illinois, for Crutcher-Rolfs-Cummings, Inc., and is called "C-R-C Pipe Line Special."

WORKING BARREL
Jon R. Long

Jon R. Long, Fort Worth, Texas, has developed a new type of working barrel, trade-named "Silvertube Precision Working Barrels." It is manufactured from a cold drawn seamless steel tube, especially developed for oil country application by the Detroit Seamless Steel Tubes Company.

A unique feature of these barrels, as claimed by the manufacturer, is the internal finish produced by an exclusive drawing process which closes the grain structure of the steel, leaving a highly polished hard, mirror-like surface highly resistant to abrasion and erosion. There are no seams, tool marks, rings, scores or pits to mar the bore.

Tolerances, straightness and internal finish of the new barrels are of exacting precision, due to rigid inspection and advanced engineering practice. The barrel has been developed to increase cup life and greater operating efficiency.

This Week with the Industry's EQUIPMENT SUPPLIERS

Parkersburg Appoints New Tank Distributor

The Parkersburg Rig & Reel Company, Parkersburg, West Virginia, has completed arrangements with Harvey Tank & Equipment Company of Cut Bank, Montana, whereby the latter will distribute Parkersburg bolted tanks in Colorado, Wyoming and Montana.

English Firm Will Make Diesel Engines for Hercules

Hercules Motors Corporation, Canton, Ohio, has announced the completion of a license agreement with Ruston & Hornsby, Ltd. of Lincoln, England, a concern that has for many years been engaged in the manufacture of heavy-duty Diesel engines, being the largest producer of oil engines in the British Empire.

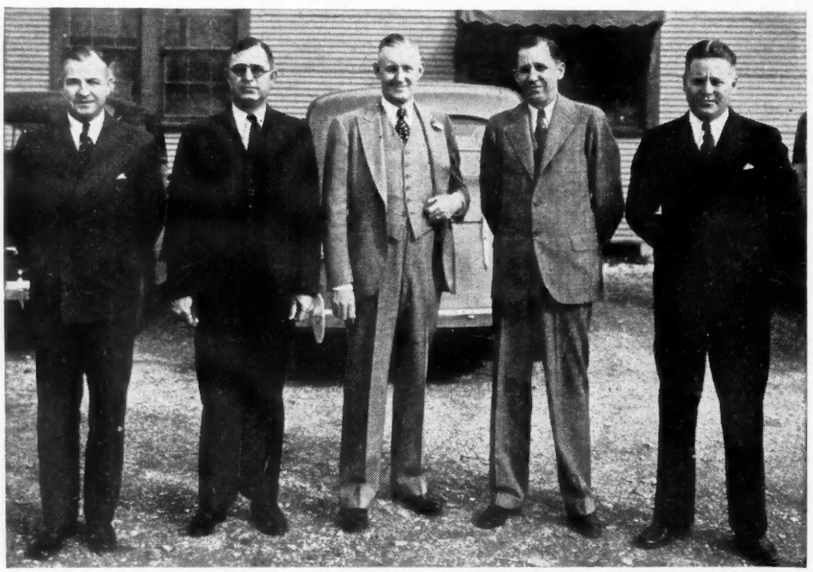
Ruston & Hornsby, Ltd., will build in England under the new arrangement the Hercules line of light-weight, high-speed compression ignition engines (Diesels), employing the Hercules patented combustion system and following closely the general design of the well known Hercules Diesel engines, the American company has announced. Preparations are being pushed with all available means and it is estimated that the English company will be in production on at least one model in four months, and other models will follow. Until such time as the British built engines are available Ruston & Hornsby, Ltd., is marketing the American built Hercules Diesel engines. The British built product will be known as the "Ruston-Hercules" type.

G. R. Sharpley, managing director, and T. P. N. Burness, works manager of Ruston & Hornsby, Ltd., have recently returned to England, having spent several weeks in the United States, during which time the arrangement with Hercules Motors Corporation was negotiated and completed.

International Derrick & Equipment Company sales conference. Reading from left to right, front row: R. W. Rushing, F. E. Anderson, C. R. Athy, Dan Fell, J. A. Tidball, F. E. Suder, R. R. Bloss, vice president, B. S. Wellman, director, B. Boykin, Jr., vice president, W. B. Gallman, L. J. Brown, president. Second row: M. L. Norris, C. G. Booker, C. J. Colby, C. A. McClelland, R. Lee Chance, K. C. Danforth, L. R. Spencer, J. M. Aitken, C. D. Lambert, D. D Perry, E. H. Eddleman, vice president. Top row: G. E. Shoup, Tom Bergin, M. T. McGriff, T. F. Neeson, C. M. Powell, L. L. Powell, R. L. Armitage.

International Derrick Conference at Beaumont

International Derrick & Equipment Company recently held a two-day conference at Beaumont, of Mid-Continent and Gulf Coast salesmen. The activities of the conference were directed by E. H. Eddleman, vice president in charge of sales. L. J. Brown, president of International Stacey Corporation, of which International Derrick & Equipment Company is a division, gave the opening address. Other executives and department heads led discussions on various topics. During the meeting, several new products were introduced and many improvements in existing equipment were discussed. Plans were outlined for an expanded program for the coming year.



Houston Oil Field Material Company, Houston, elected officers and directors at a meeting held Saturady morning, February 22. Left to right in the picture, they are: George O'Leary, president; Ed H. Robertson, executive vice president; Robt. Ewing, vice president and assistant secretary and treasurer; J. E. Peters, secretary and treasurer; and A. W. Waddill, director. M. "Bink" Manning, not in the picture, was elected a vice president and director, and the four officers in the picture were also elected to the board of directors.

Catalogs...Bulletins

Pipe Straightener

The New Deal Specialty Company, Okmulgee, Oklahoma, has issued a four-page folder that illustrates and describes its "New Deal" hydraulic pipe straightener.

Pulling and Lifting Tool

The Yale & Towne Manufacturing Company, Philadelphia, has issued an interesting folder that describes its "Pul-Lift," a pulling and lifting tool for use in places providing limited room.

Rotary

Oil Well Supply Company, Dallas, Texas, recently issued bulletin No. 131, illustrating and describing its 26-inch "Make-and-Break" rotary, Model 34.

Pumping Power

The National Supply Company, Toledo, Ohio, has ready for distribution bulletin No. 90, describing its Type G-50 pumping power.

Hard Facing Metal

The Haynes Stellite Company, Kokomo, Indiana, has announced the publication of a new eight-page booklet, "Haynes Stellited Valves." Copies of this descriptive illustrated booklet may be obtained from the company.

Condenser Tube Cement

The Debevoise Company, Brooklyn, New York, has ready for distribution an interesting bulletin on "Erosion", a report for engineers and others interested in power production and prevention of erosion from water in motion.

Squeaks from the Bull Wheel

Quit Foolin'

The officer took out his book and poised his stubby pencil.

"What's yer name?"

"John Smith."

"Yer real name," bawled the officer, who had been tricked the day before.

"Well, then, put me down as William Shakespeare."

"That's better. Yuh can't fool me with that Smith stuff."

Scratch

"I hear, Uncle Wash," said Doctor Brown, "that all your folks have the itch."

"Yas suh, Doctah," replied the old darky, "de good Lawd has done 'flicted we-all dat way."

"And are you doing anything for it, Uncle?"

"Oh, yas suh, Doctah, yas suh."

"What are you doing?"

"Why suh, Doctah, we-all is scratchin' suh."

Generous Husband

A mayor of one of the large cities is said to have received a letter from a man in a nearby town, which read:

"Dear Sir: I got a paper which says that Mrs. Ruby Gofrey is going tew git a devorse. She is my wife. Leave her have it, I don't want her no more. (Signed) Jim Gofrey.

P.S. Yew can have the one I got now tew if you want her."

Libel

Customer: "I don't want to buy your crackers; they tell me the mice are always running over them."

Grocer: "That isn't so; why the cat sleeps in the barrel every night."

Dirty Irish Trick

"What's that in your pocket?"

"Dynamite. I'm waiting for Casey. Every time he meets me he slaps me on the chest and breaks me pipe. Next time he does it, he'll blow his hand off."

Money Wasted

"The doctor made a thorough examination of me and said there's something the matter with my head."

"You don't mean to say that you paid a doctor to tell you that, do you?"

No Wonder

Bandman: "Do you know, that song just haunts me."

Leader: "Well, it should. You murdered it."

Sales Talk

"These stockings are the very latest patterns, fast colors, hole-proof, won't shrink, priced far lower than elsewhere, and a very good yarn."

"Yes, and you tell it well."

Quiet Indeed

"Can we play store in here, mama?"

"Yes, but you must be very quiet."

"We will mama. We'll pretend we don't advertise."

Back Seat

If you can start on an auto tour with the certainty of knowing where you're going—

Or if you don't have to stop every five miles to look at your gas and oil—

Or if you make every turn and detour correctly, according to the guide book—

Or if you are driving along at just the right speed for comfort and safety—

Or if you're certain that there isn't a squeak or rattle in the old bus—

Look around, my boy; she's either asleep or you've lost her somewhere.

A Woman Is Only a Woman

Mr. Meek (protestingly)—But, my dear, all the great men smoked, you know.

Mrs. M. (soothingly)—Yes, Henry, and when you get to be a great man I shan't object to your smoking, either.

Explained

"Ah, Egbert, Marie said she dreamed last night that she danced with you—"

"You thrill me."

—"and then woke up to find her little brother pounding her feet with a skillet."

Kind Hearted Kid

Mother, may I have a nickel for the old man who's crying outside?

Yes, dear, but what is the old man crying about?

He's crying, "Peanuts, 5 cents a bag!"

Ding!

Voice (over telephone): "Are you the game warden?"

"Yes, ma'am."

"I am so thankful I have the right person at last! Would you mind suggesting some games suitable for a children's party?"

Budget Balancing

"Jane," said a lady to her servant, "you have broken more dishes and glasses than your wages amount to. What can be done to prevent this?"

"Well, mum," said Jane, "you might raise my wages."

Not Proud

Tailor: "You have recently inherited a nice lump of money from your uncle. Why don't you pay me?"

Customer: "I hate all outward show. I don't want it to be said that my newly acquired wealth has caused a departure from my former simple habits."

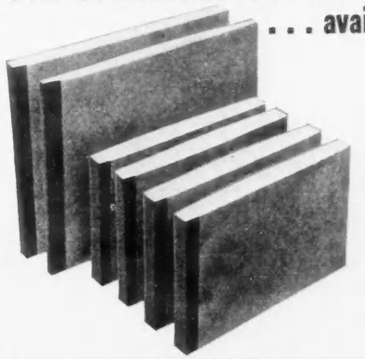
Head the Class

"Willie, define the word puncture."

"A puncture is a little hole in a tire, usually found a great distance from a garage."

OIL COMPANY OFFICE and FIELD FORMS

. . . available at mass production prices



After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

These forms are printed on 16 lb. Bond Paper. They are substantially bound. Duplicates are printed on colored bond and perforated, pencil carbon included with each book.

Forms will be shipped prepaid at prices shown below. Samples will be sent upon request.

Number	Kind of Form	PRICE 1 Book	5 Books	10 Books
Form 100	DAILY DRILLING REPORT—1 TOUR (In duplicate—100 sets to the book)	$1.50	$6.50	$10.50
Form 101	DAILY TIME RECORD (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 102	DAILY GAUGE REPORT (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)	1.50	6.50	10.50
Form 104	PIPE TALLY SHEET (In duplicate—100 sets to the book)	1.50	6.50	10.50
Form 105	MATERIAL TRANSFER RECORD (In duplicate—100 sets to the book)	1.50	6.50	10.50
Form 106	DAILY DRILLING REPORT—3 TOURS (In duplicate—100 sets to the book)	1.50	6.50	10.50

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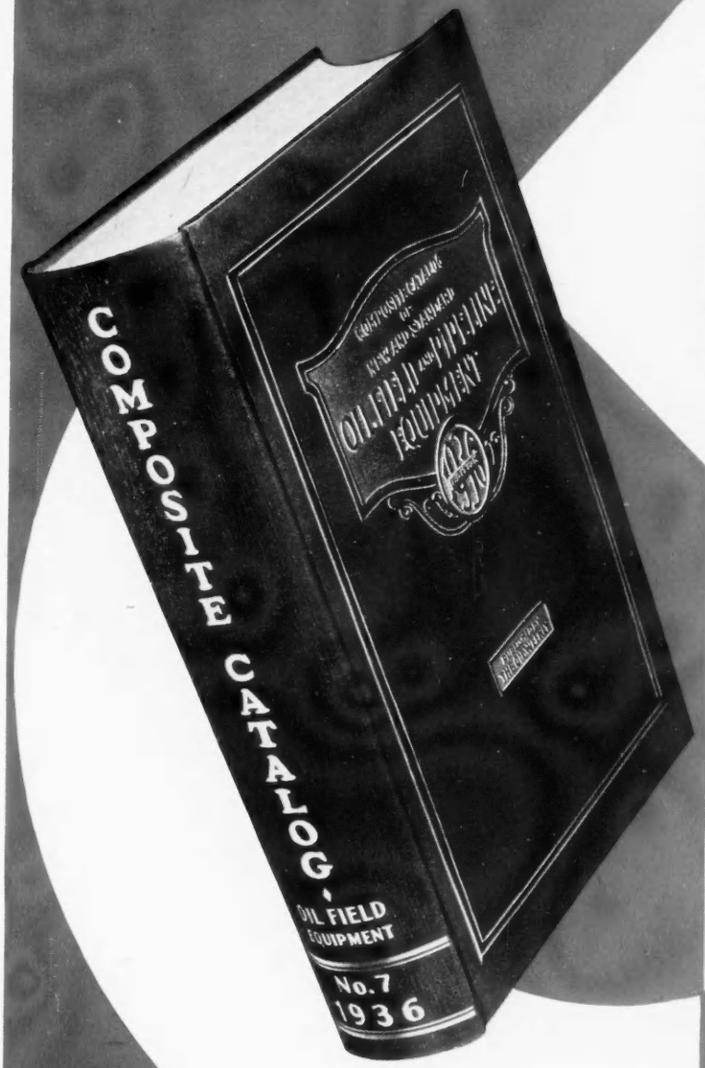

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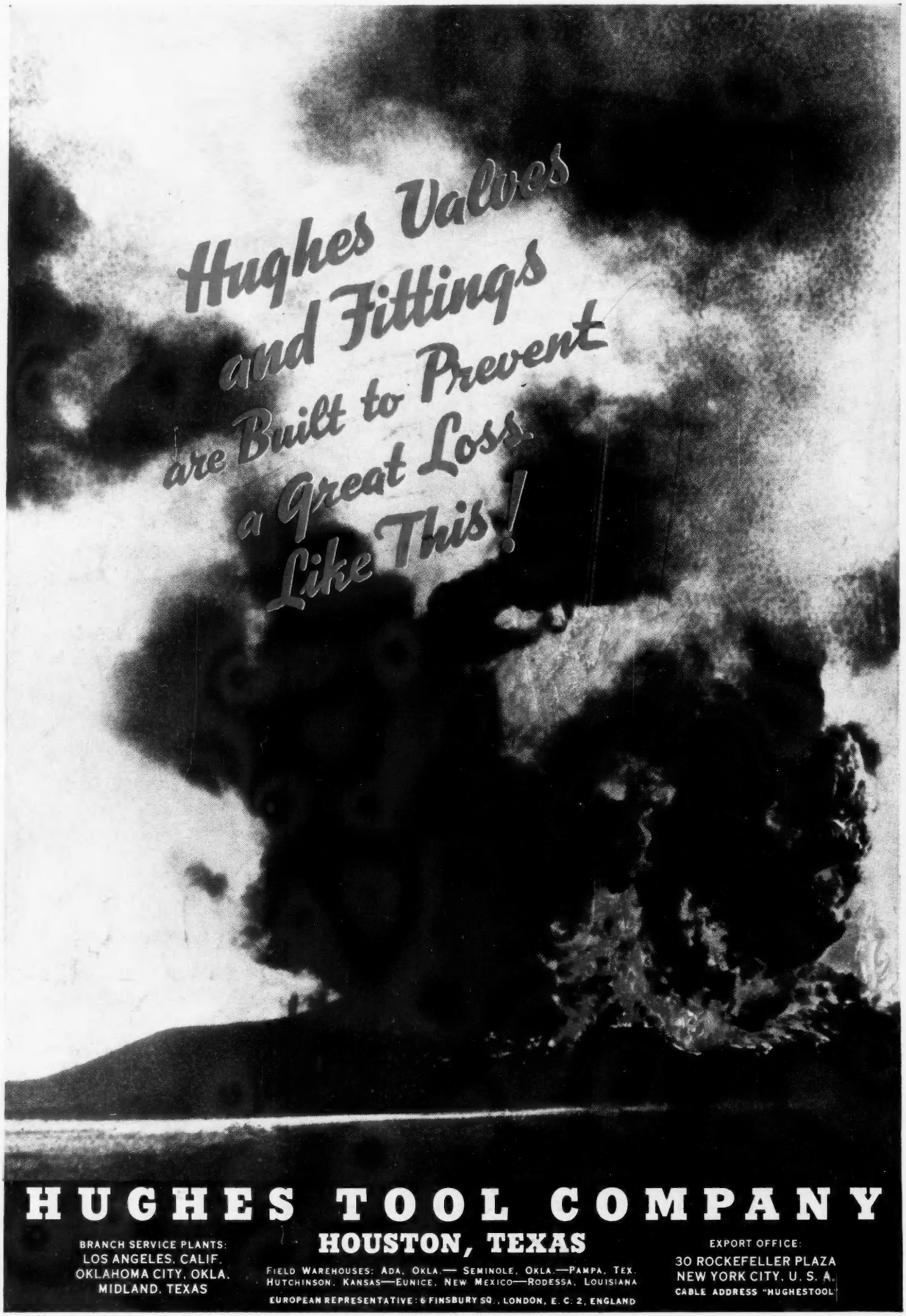

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